

**DES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095**

**NOVEMBER 2020
SPRING 2020 SAMPLING EVENT
ANALYTICAL RESULTS
Coakley Landfill Superfund Site
North Hampton and Greenland
New Hampshire**

**NHDES Site #: 198712001
Project Type: Superfund Site**

Prepared For:
New Hampshire Department of Environmental
Services
29 Hazen Drive
Concord, New Hampshire 03302-0095

**Suzanne
e Yerina** Digitally signed
by Suzanne
Yerina
Date: 2020.11.11
13:44:10 -05'00'



Prepared By:
CES, Inc.
415 Lisbon Street
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Date of Report: (November 2020)

Groundwater Monitoring Report Cover Sheet

Site Name: Coakley Landfill

Town: North Hampton, New Hampshire

Permit #: GWP-198712001-N-002

Type of Submittal (Check all that apply)

- Periodic Summary Report (year): Spring 2020
- Data Submittal (month and year per Condition #7 of Permit):
-

Check each box where the answer to any of the following questions is "YES"

Sampling Results

- During the most recent monitoring event, were any new compounds detected at any sampling point?
Well/Compound:
- Are there any detections of contamination in drinking water that is untreated prior to use? None
Well/Compound:
 Do compounds detected exceed
- Was free product detected for the first time in any monitoring point?
 Surface Water (*visible sheen*)
 Groundwater (*1/8" or greater thickness*)
Location/Thickness:

Contaminant Trends

- Do sampling results show an increasing concentration trend in any source area monitoring well?
Well/Compound:
- Do sampling results indicate an AGQS violation in any of the GMZ boundary wells?
Well/Compound: FPC-6A (1,4-dioxane, arsenic, manganese, and PFOA); FPC- 6B (1,4-dioxane and PFOA); FPC-9A (arsenic, 1,4-dioxane, PFOA, and PFOS); FPC-9B (1,4-dioxane and PFOA); FPC-11A (1,4-dioxane and PFOA); FPC-11B (manganese); FPC-3C (arsenic); AE-1A (1,4-dioxane and arsenic); AE-1B (1,4-dioxane); MW-20D2 (1,4-dioxane); MW-21S (1,4-dioxane, PFOA, PFHxS, PFNA, and PFOS); MW-21D1 (arsenic)

Recommendations

- Does the report include any recommendations requiring DES action? (*Do not check this box if the only recommendation is to continue with existing permit conditions.*)

November 10, 2020

Peter Britz
Coakley Project Coordinator
1 Junkins Avenue
Portsmouth, New Hampshire 03801

RE: Results of Spring 2020 Groundwater Sampling at the Coakley Landfill North Hampton, New Hampshire

Dear Mr. Britz:

CES, Inc (CES) has completed the first semiannual sampling event for 2020 between May 11 and June 11, 2020. This letter is intended to provide the Coakley Landfill Group (CLG) with a brief preliminary assessment of the data to comply with United States Environmental Protection Agency (USEPA) and New Hampshire Department of Environmental Services (NHDES) request to receive a copy of validated data tables following receipt of analytical data.

Sampling was performed for groundwater, private water supply wells, surface water, landfill leachate seep, and sediment in accordance with the project Sampling and Analysis Plan (SAP) submitted on July 31, 2018. Laboratory analysis was completed by Eastern Analytical, Inc. (EAI) of Concord, New Hampshire, and Vista Analytical Laboratory (Vista) of El Dorado Hills, California. Quality Assurance Associates (QAA) of College Station, Texas, completed the Tier 1 Plus Data Validation.

A Site plan showing the sampling locations is included as **Figure 1**. Groundwater sampling was completed within Operable Unit-1 (OU-1) and Operable Unit-2 (OU-2). OU-1 includes the area in the immediate vicinity of the landfill where source control actions were completed to reduce impacts to surface water and groundwater quality and to eliminate threats possibly posed by direct contact with or ingestion of contaminated media at the Site. OU-2 includes the area beyond the landfill where the objective is to monitor the natural attenuation of water quality impacts and minimize exposure to potential receptors caused by groundwater and surface water migrating away from the Site. **Table 1** through **Table 7** include the validated analytical results of the Spring 2020 sampling event.

The 2020 Annual Summary Report will be completed following the Fall 2020 sampling event and include:

- ♦ Tables summarizing the results of the two monitoring events completed in 2020;

- ◆ Time series plots for each monitoring point for contaminants of concern (COC) that exceeded a Cleanup Level (CL), Ambient Groundwater Quality Standard (AGQS), or Lifetime Health Advisory (HA);
- ◆ Statistical trend analysis for contaminants of concern at monitoring points where CLs/AGQS/HAs were exceeded;
- ◆ Isoconcentration contour figures, prepared from Fall event results only, unless the parameter is only sampled during the Spring 2020 sampling event (i.e. arsenic and manganese). Figures will illustrate the contaminant concentrations for which CLs/AGQS/HAs were exceeded;
- ◆ Discussion of well depths to determine if silt, sand, or other obstructions may be impeding or compromising the use of the well as a sampling point;
- ◆ Discussion of temporal trends in contaminants of concern in the context of the progress of the natural attenuation remedy for the restoration of groundwater, surface water, and sediment quality; and,
- ◆ Recommendations for any remedial actions, for future modifications to the current monitoring program and/or for implementation of corrective actions to address issues noted during the sampling events during the calendar year.

SAMPLING RESULTS

Groundwater Level Monitoring

Prior to the onset of the sampling event, CES measured and recorded a synoptic round of static groundwater levels using an electronic water level meter capable of measuring in 0.01-foot increments. A summary of these elevations has been provided in **Table 1.1** and include historical groundwater elevations since April 2001. In general, groundwater elevations at each well are consistent with historical averages. Following the collection of groundwater measurements during the Fall 2020 sampling event, groundwater potentiometric surface maps will be generated for overburden and bedrock groundwater monitoring wells.

Vertical Groundwater Gradients

Vertical groundwater gradients were calculated at 18 well pairs (e.g., AE-1A/-1B) or triplets (e.g., FPC-3A/-3B/-3C) based on synoptic water level gauging measurements completed during the Spring 2020 sampling event. A summary of water level measurements and corresponding calculation of vertical gradients is included on **Table 1.2**. For the purpose of categorizing locations as showing an upward, downward or neutral gradient, paired wells exhibiting 0.1 feet or less of difference are considered neutral, while wells with greater than 0.1 feet of difference in water levels are designated as upward or downward.

In general, vertical groundwater gradients were similar to those observed during the Spring 2019 sampling event (where calculated) with the exception of four well pairs. Three well pairs (FPC-3A/-3B, FPC-9A/-9B, and FPC-11A/-11B) exhibited a change in the spring gradient from neutral to downward with one well pair (FPC-3A/-3C) changing from upward to neutral. These data will be compared to those calculated during the Fall 2020 sampling event and discussed further in the 2020 Annual Groundwater Quality Report.

Well Depth Comparison

The SAP requires measurement of well depths during the sampling event prior to USEPA 5-Year Reviews to determine the presence of silt, sand, or other obstructions that may impede or compromise use of the well as a sampling location. The next USEPA 5-Year Review will be completed in 2021.

Following the measurement of static water level at each location, CES measured the total well depth using a weighted electronic water level meter capable of measuring in 0.01-foot increments. Current and historical well depth measurements are summarized in **Table 2**.

Of the forty-nine wells that had well depths measured, three monitoring wells (FPC-3A, FPC-5A, and FPC-9A) had a greater than one foot well depth variance from the 2012 reported well depths. No evidence was observed in 2020 water quality monitoring results that indicate water quality analyses are being affected by sediment in the wells other than at well FPC-9A. However, based on the calculated variances in those wells listed above, we recommend that wells FPC-3A, FPC-5A, and FPC-9A be further evaluated and redeveloped.

Groundwater Sampling

Groundwater was sampled at a total of 11 OU-1 groundwater monitoring wells and 38 OU-2 groundwater monitoring wells during the Spring 2020 event.

Arsenic concentrations were reported above the USEPA CL and NHDES AGQS of 0.01 milligrams per liter (mg/L) in 6 OU-1 wells and 10 OU-2 wells. Manganese was detected at concentrations above the CL (0.3 mg/L) and/or AGQS (0.84 mg/L) in 11 OU-1 wells and 13 OU-2 wells (**Table 3**). With few exceptions, arsenic and manganese results are similar to 2019 results and are considered largely stable. Detections of arsenic and manganese were within historical concentration ranges with the exception of arsenic at FPC-9B (0.0019 mg/L) and manganese at MW-6 (4 mg/L), AE-1A (0.6 mg/L), AE-3A (2 mg/L), FPC-2A (1.2 mg/L), and FPC-9B (0.18 mg/L). Arsenic and manganese concentrations at these wells were reported above their historical ranges. It should be noted that MW-6 was redeveloped in preparation for ongoing deep bedrock investigation activities prior to sampling and this is the first time FPC-2A has been sampled since 2012. Both arsenic and manganese are sensitive to reducing conditions which may result in the mobilization of naturally occurring arsenic and manganese present in overburden and bedrock groundwater. This mobilization can have an effect on concentrations in groundwater. AE-1A, AE-3A, and FPC-2A are overburden wells screened in glacial till located to the southeast (AE-1A), south (FPC-2A), and north (AE-3A) of the landfill. MW-6, AE-1B, and FPC-9B are located to the south (MW-6), southeast (AE-1B), and northeast (FPC-9B) of the landfill. Concentrations of arsenic and manganese decrease as one moves to the north and east away from the landfill. Bedrock wells reported slightly higher concentrations than adjacent glacial till wells.

Chromium was reported above the USEPA CL (0.05 mg/L) but below the NHDES AGQS (0.1 mg/L) in one OU-2 well (MW-20D2) during the Spring 2020 sampling event at a concentration of 0.085 mg/L. This was the first event that MW-20D2 was analyzed for chromium with metals sampled annually from OU-1/OU-2 monitoring wells. The next event scheduled for metals analysis is Spring 2021.

All OU-1 and OU-2 monitoring wells were analyzed for 1,4-dioxane during the Spring 2020 sampling event. A total of eight OU-1 wells and 18 OU-2 wells had detections of 1,4-dioxane at a concentration above the AGQS of 0.32 micrograms per liter (ug/L) while six OU-1 wells and 12 OU-2 wells had detections above the CL of 3 ug/L. Results were similar for exceedances of the AGQS and CL reported for Fall 2019. Wells with reported concentrations of 1,4-dioxane above the CL/AGQS are all located within the Groundwater Management Zone (GMZ).

Volatile Organic Compounds (VOCs) were not detected at concentrations above the CL or AGQS in wells sampled, with the exception of tert-butyl alcohol (AGQS of 40 ug/L) at OU-1 wells MW-5D (55 ug/L) and MW-8 (46 ug/L). These results are consistent with historical data.

On October 1, 2019, the AGQS for PFAS compounds perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were lowered from their previous level of 70 nanograms per liter (ng/L) each to 12 ng/L and 15 ng/L, respectively. New AGQSs were established for perfluorononanoic acid (PFNA) at 11 ng/L and perfluorohexanesulfonic acid (PFHxS) at 18 ng/L. These lower standards were stayed by a court ruling on December 31, 2019, but were reinstated in September 2020 after the preliminary injunction was vacated.

Concentrations of PFOA within OU-1 ranged from 2.76 J nanograms per liter (ng/L) at OP-5 to 914 ng/L at MW-10. PFOA concentrations above the HA (70 ng/L) were detected in 8 of the 11 OU-1 wells sampled. Concentrations of PFOA within OU-2 ranged from non-detect (ND) to 766 ng/L at AE-2B and were reported above the HA in 8 of 38 wells sampled. The 16 wells reporting exceedances of the HA for PFOA are all located within the GMZ. One additional OU-1 well and 5 additional OU-2 wells exceeded the lowered AGQS for PFOA (12 ng/L).

Concentrations of PFOS within OU-1 ranged from ND at OP-5 to 819 ng/L at MW-10. PFOS was reported above the HA (70 ng/L) in 9 of the 11 OU-1 wells sampled. Concentrations of PFOS in OU-2 wells ranged from ND to 445 ng/L at AE-2B and were reported above the HA in 5 of 38 wells sampled. Wells with reported exceedances of the HA for PFOS are all located within the GMZ. Two additional OU-1 wells and 4 additional OU-2 wells exceeded the AGQS for PFOS (15 ng/L).

The combined concentrations of PFOA and PFOS exceeded the HA (70 ng/L) in 8 of 11 OU-1 wells sampled and 9 of 38 OU-2 wells sampled. Wells with reported exceedances of the HA for PFOA/PFOS combined are all located within the GMZ. There is no AGQS for combined concentrations of PFOA and PFOS.

Concentrations of PFNA within OU-1 ranged from ND at four wells to 392 ng/L at MW-10. PFNA was reported above the AGQS (11 ng/L) in 6 of 11 wells sampled. Concentrations of PFNA in OU-2 ranged from ND at 27 wells to 142 ng/L at AE-2A. Exceedances of the AGQS were detected in 7 of 38 OU-2 wells.

Concentrations of PFHxS within OU-1 ranged from ND at two wells to 98.5 ng/L at MW-8. PFHxS was reported above the AGQS (18 ng/L) in 5 of 11 OU-1 wells. Concentrations of PFHxS in OU-

2 ranged from ND at 16 wells to 89.4 ng/L at AE-2B and exceeded the AGQS in 7 of 38 OU-2 wells.

Although concentrations in some wells were slightly above previously reported concentrations, results are relatively consistent with those reported in the Fall of 2019. Trend analysis will be completed following receipt of Fall 2020 data and included with the 2020 Annual Water Quality Report. It should be noted that the Spring 2020 sampling event was only the second event where the analysis for an expanded list of PFAS compounds was completed. The first event was completed in Fall 2019.

Private Water Supply Wells

A total of 22 private water supply wells were sampled during the Spring event. **Table 4** provides a summary of analytical results. 1,4-dioxane was not detected above the NHDES AGQS of 0.32 ug/L in any residential well sampled. Historically, 339 Breakfast Hill Road (339 BHR) and R-3 (368 Breakfast Hill Road) had low levels (< 0.6 ug/L) of 1,4-dioxane, above the NHDES AGQS. However, 1,4-dioxane was detected at a concentration of 0.26 and 0.21 ug/L (original and duplicate samples) at R-3 and 0.28 ug/L at 339 BHR during this sampling event, all below the NHDES AGQS.

Concentrations of PFOA ranged from ND to 16.3 ng/L (339 BHR). Only one residential well (339 BHR) was above the AGQS of 12 ng/L; however, this result was within the historical range for PFOA at this location. PFOS concentrations ranged from ND to 6.17 ng/L (463 BHR), all below the AGQS of 15 ng/L. PFOA/PFOS combined concentrations ranged from ND to 17.31 J ng/L (339 BHR) and were consistent with past events. PFOA, PFOS, and PFOA/PFOS combined concentrations were not reported above the Lifetime HA (70 ng/L) in any of the residential wells sampled. Concentrations of PFOS, PFNA, and PFHxS did not exceed their respective AGQS in any residential wells sampled during this sampling event.

Surface Water Sampling

A total of eight surface water locations were sampled during the Spring 2020 event (**Figure 1**). **Table 5** provides a summary of analytical results.

Copper was reported above the chronic and acute standards (0.0023 and 0.0029 mg/L, respectively) at SW-4 with a concentration of 0.013 mg/L. This was a first-time exceedance for copper at SW-4 since sampling began in April 2017: however, copper has previously been reported at concentrations above the standard at other surface water locations monitored at the Site (e.g., SW-5). Iron concentrations were reported above the chronic standard (1 mg/L) at two locations (SW-5 and SW-BB1) and are consistent with historical results. Aluminum was reported above the chronic standard (0.087 mg/L) but below the acute standard (0.75 mg/L) in one sample (SW-LR) at a concentration of 0.15 mg/L. This is consistent with historical concentrations at SW-LR.

1,4-dioxane was reported at concentrations ranging from ND to 1.8 ug/L (SW-5 Dup), consistent with past results. 1,4-dioxane does not have a chronic or acute standard.

PFOA concentrations ranged from 13.6 (SW-LR) to 719 ng/L (SW-5 Dup). PFOS concentrations ranged from 3.45 J (SW-LR) to 1,080 ng/L (SW-103). The combination of PFOA and PFOS was reported in surface water samples at concentrations ranging from 17.05 J ng/L (SW-LR) to 1,779 ng/L (SW-5 Dup) during the Spring 2020 sampling event. These results are consistent with past events.

None of the detected concentrations of PFOS, PFOA, or PFBS in any surface water sample exceeded the mid-range child or adult recreator screening level or the adult maximum exposure screening level. No surface water location results were above the lowest screening level for PFOA – the child recreator maximum exposure scenario (120 effective days). Results for two surface water sampling locations, SW-5 and SW-103, located near the landfill, exceeded the lowest screening level – the child recreator maximum exposure scenario (120 effective days) for PFOS. Concentrations at the other six surface water sampling locations were below the child recreator maximum exposure screening level.

Sediment Sampling

Sediment samples were collected from a total of seven locations as shown on **Figure 1. Table 6** provides a summary of analytical results.

Six parameters (total arsenic, total chromium, total copper, total lead, total mercury, and total nickel) in one or more sediment samples were reported at concentrations above their respective National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRT) Threshold Effect Concentration (TEC). SQuiRT TECs are screening concentrations and were designed to help evaluate potential risks from contaminated water, sediment, or soil. It should be noted that they do not represent official NOAA policy and are not intended to be used in place of regulatory standards or CLs. Concentrations of total arsenic were reported above their associated SQuiRT TECs at locations SED-5, SED-LR, SED-BB1, and SED-BB2. Total chromium was reported above its respective TEC at location SED-LR. Total copper and total mercury were reported above their respective TEC at location SED-5 with total mercury also reported above the associated TEC at SED-4. Concentrations of total lead was reported above its associated TEC at locations SED-5 and SED-LR. Total nickel was reported above the associated TEC standard at four locations (SED-5, SED-110, SED-LR, and SED-BB1).

1,4-dioxane was not reported in any of the sediment samples collected.

The combination of PFOA and PFOS was reported in sediment samples at concentrations ranging from ND to 0.10646 milligrams per kilogram (mg/kg) (SED-5). Neither 1,4-dioxane nor PFOA/PFOS have an applicable TEC. None of the PFOA, PFOS, or PFBS concentrations in sediment exceeded the maximum or mid-range regional screening levels (RSLs) during this sampling event, consistent with past events.

Seep Sampling (L-1)

A summary of analytical results from the regular and duplicate samples collected for the seep sampling location L-1 is provided as **Table 7**. As shown, one parameter (iron) was reported above the NHDES Chronic/Acute Surface Water Standard.

1,4-dioxane was reported at concentrations of 8.8 J and 9.6 ug/L (original and duplicate sample, respectively), below the historical average for this location since analysis for 1,4-dioxane began in August 2009. 1,4-dioxane does not have a chronic or acute standard. Concentrations of other parameters analyzed at this location were consistently below historic concentrations.

PFOA and PFOS were analyzed at this location. Results include both the original and a duplicate sample. PFOA was reported at 501 J and 456 ng/L, and PFOS was reported at concentrations of 239 J and 204 ng/L. The combined concentrations for PFOA/PFOS were 740 J and 660 ng/L. Combined PFOA and PFOS concentrations at L-1 were slightly above the concentrations reported in 2019.

SUMMARY

Based on the results of the Spring 2020 sampling, the following findings were made:

- ◆ 1,4-dioxane was not detected above the NHDES AGQS in any residential well sampled during this sampling event. Historically it has been detected above the AGQS in two wells (339 BHR and R-3).
- ◆ PFOA was detected above the NHDES AGQS in one residential well (339BHR).
- ◆ Combined PFOA and PFOS detections did not exceed the USEPA HA of 70 ng/L in the residential water supply wells sampled. The maximum combined concentration in water supply wells was 17.31 J ng/L at 339 BHR, consistent with past results.
- ◆ Groundwater exceedances for arsenic, manganese, 1,4-dioxane, PFOA, PFOS, and PFOA/PFOS combined were confined to wells within the GMZ.
- ◆ One parameter (iron) at two surface water locations (SW-5 and SW-BB1) was reported above the NHDES Chronic surface water standard. Aluminum was reported above the chronic standard in one sample (SW-LR). Copper was reported above the NHDES chronic and acute surface water standard in one sample (SW-4).
- ◆ PFOA was detected below the applicable USEPA surface water RSLs at all eight surface water sampling locations. PFOS was detected at concentrations below USEPA surface water RSLs at six of eight surface water sampling locations. PFOS was detected above the child recreator maximum exposure scenario (120 effective days) at two surface water locations (SW-5 and SW-103), consistent with past results.
- ◆ Six parameters (total arsenic, total chromium, total copper, total lead, total mercury, and total nickel) in one or more sediment samples were reported above their associated NOAA SQUIRT TEC Standard, which is consistent with historical results.
- ◆ None of the PFOA, PFOS or PFBS concentrations in sediment exceeded the maximum or mid-range screening levels established by USEPA/NHDES.
- ◆ Iron was reported above the chronic NHDES surface water standard for the L-1 seep sampling location; however, it was reported below the historical high (1,100,000 ug/L, August 2004).
- ◆ PFOA/PFOS for seep location (L-1) were detected at combined concentrations of 740 and 660 ng/L (original and duplicate sample), below the historical high reported in April 2017.

If you have any questions concerning this letter, please contact either of the undersigned at (207) 795-6009.

Sincerely,
CES, Inc.

A handwritten signature in blue ink, appearing to read "Suzanne Yerina".

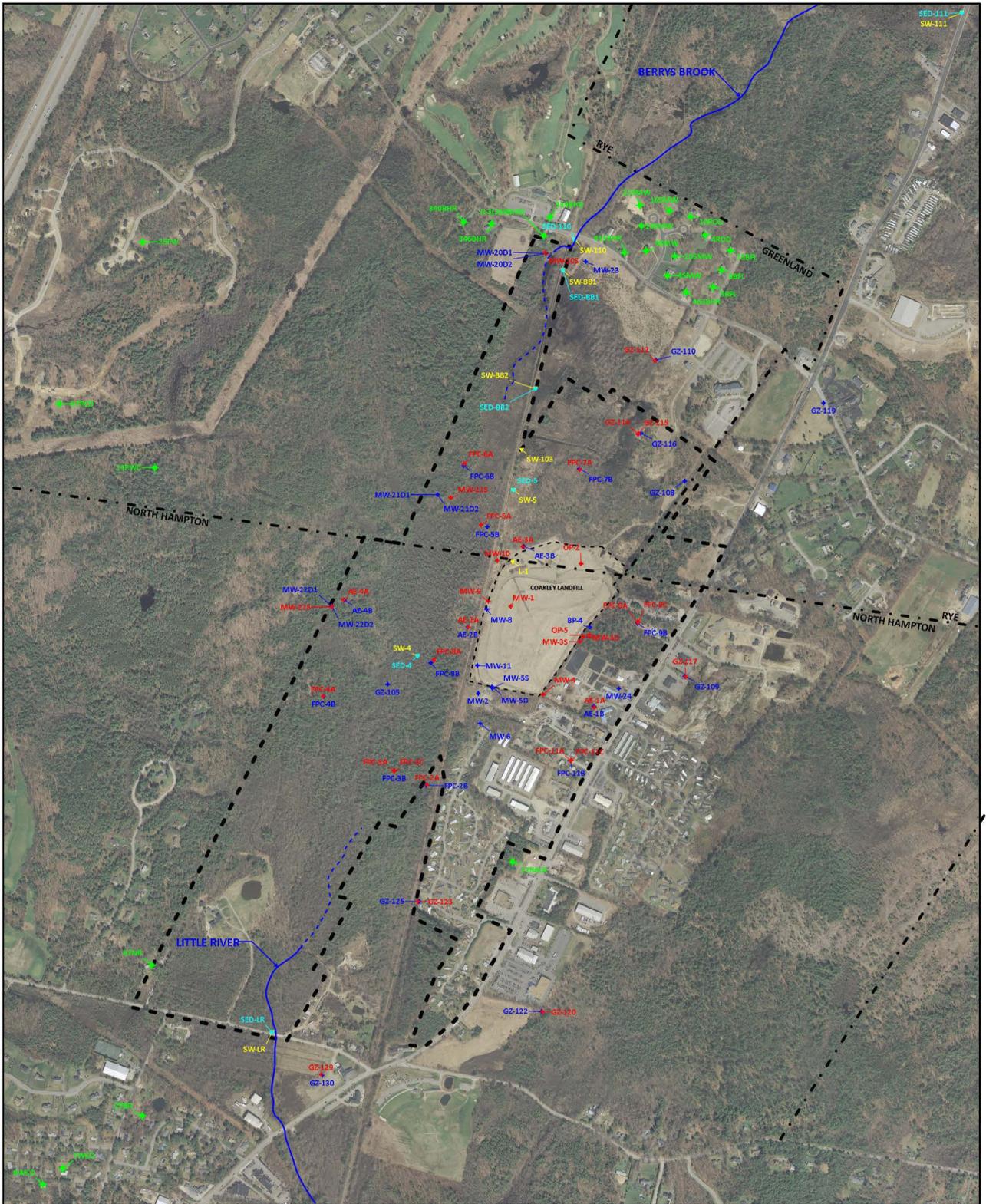
Suzanne Yerina, P.G.
Project Geologist

A handwritten signature in blue ink, appearing to read "Christopher Buckman".

Christopher Buckman, P.G.
Senior Project Geologist

SLY/CFB

FIGURE



LEGEND

- ★ OVERBURDEN GROUNDWATER MONITORING WELL
- ★ BEDROCK GROUNDWATER MONITORING WELL
- ▲ SURFACE WATER SAMPLING LOCATION
- ◆ SEDIMENT SAMPLING LOCATION
- GROUNDWATER MONITORING POINT BOUNDARY
- TOWN LINE

NOTES

1. THIS SITE PLAN IS BASED ON THE MONITORING SAMPLING LOCATIONS AS PER THE COAKLEY LANDFILL OPERATING SITE PERMITS AND MONITORING PLAN DATED 02/20/2018.
2. GROUNDWATER MONITORING POINTS ARE BASED ON THE "COAKLEY LANDFILL" APPLICATION SUBMITTED BY HANCOCK ASSOCIATES AND 2018 GROUNDWATER MONITORING PLAN ESTABLISHED BY THE 2018 GMP AND 2018 GMP ADDENDUM.
3. GMP ADDENDUM 2018 GMP.
4. MONITORING POINTS ARE BASED ON THE NEW HAMPSHIRE STATE PLAN FOR THE COAKLEY LANDFILL OPERATING SITE PERMITS AND MONITORING PLAN DATED 02/20/2018.
5. SURFACE WATER SAMPLING LOCATION PER 1111 (CORRIDOR) VERTICAL DATUM OF 1988.
6. MONITORING POINTS ARE BASED ON THE NORTH HAMPSHIRE TOWN OF GREENLAND, 2018 GMP.

COAKLEY LANDFILL SUPERFUND SITE
NEW HAMPSHIRE

GRAPHIC SCALE
 1 INCH = 400 FEET

DATE: 12/11/2024
 DRAWN BY: [Name]

FOR DISCUSSION PURPOSES ONLY

NO.	DESCRIPTION	DATE	DRAWN BY	CHECKED BY

CES INC
 Engineers • Environmental Scientists • Surveyors

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FIGURE 1

TABLES

Draft Table 1.1 Summary of Groundwater Elevation Data: April 2001 through May 2020
 2020 Semi-Annual Summary Report
 Coakley Landfill Superfund Site
 Greenland and North Hampton, New Hampshire

MONITORING WELL IDENTIFICATION	Ref. Pt Elev. (FT. NGVD)	New Ref Pt. 2018-2019 survey (FT. NGVD)	Screened Interval (FT. from measuring point)	Apr-01	Aug-01	Jun-02	Aug-02	Aug-03	Aug-04	Aug-05	Aug-06	Nov-07	Aug-08	Aug-09	Aug-10	Aug-11	Aug-12	Aug-13	Sep-14	Sep-15	May-16	Apr-17	Sep-17	Apr-18	May-19	Sep-19	May-20		
				GW. EL. FT.																									
Operable Unit 1																													
BP-4	111.70	107.40	36.4 - 101.8	99.37	96.29	97.27	96.26	96.51	96.89	96.34	97.71	95.72	97.52	99.00	96.55	96.75	96.48	97.39	96.15	96.35	97.35	99.14	97.07	96.85	96.28	96.05	94.27		
MW-2	94.54	94.54	11.7 - 21.7	NM	86.75	89.00	NM	NM	NM	NM	NM	86.61	88.95	88.40	87.88	88.79	86.85	87.69	85.69	87.14	88.19	89.27	88.20	89.07	89.13	82.37	88.75		
MW-4	129.12	129.12	30.1 - 40.1	100.33	96.88	98.01	96.99	97.07	97.35	96.71	98.12	98.61	97.98	96.43	96.93	97.20	96.90	97.75	96.49	96.72	97.71	99.65	97.20	94.46	98.76	96.16	99.01		
MW-5S (Note 2)	101.96	101.96	50.7-80.7	92.24	89.33	91.46	88.78	88.71	90.89	88.54	91.42	89.54	91.47	90.99	89.70	89.89	89.02	90.06	88.33	88.76	90.20	91.31	89.79	91.25	91.08	87.90	91.09		
MW-5D (Note 2)	99.72	99.72	135.6-165.6	91.72	88.60	90.60	88.12	89.22	89.96	88.02	89.82	88.61	90.42	90.35	88.96	89.11	88.25	89.52	87.70	87.93	89.62	90.91	89.12	90.81	90.60	87.95	90.70		
MW-6	101.15	101.15	27.2 - 186.2	93.23	89.79	92.50	89.16	90.09	92.13	89.01	92.46	90.52	92.42	91.93	90.58	90.73	89.66	90.40	88.78	89.71	90.70	91.86	90.57	91.81	92.62	88.37	91.49		
MW-8 (Note 2)	85.02	85.02	47.6-67.6	78.33	76.02	77.93	75.64	76.32	77.59	75.96	77.90	76.51	78.20	77.61	76.35	77.26	75.70	77.42	75.25	75.21	77.11	78.27	77.16	78.22	78.21	75.03	78.19		
MW-9	82.62	81.70	8.0 - 13.0	76.88	74.10	75.74	73.81	73.28	78.13	73.94	75.71	75.80	76.98	75.35	74.64	77.15	74.15	75.22	73.84	74.15	75.15	77.28	76.87	77.23	77.25	72.60	75.84		
MW-10	80.60	79.10	7.7 - 12.7	75.22	73.93	74.91	73.45	74.20	74.93	73.99	74.71	74.95	74.86	74.50	74.21	75.46	74.22	74.50	74.05	74.80	74.62	75.10	74.77	75.15	75.12	72.27	73.60		
MW-11	92.70	92.70	33.8 - 53.8	83.09	80.59	82.67	80.11	81.24	82.26	79.85	82.89	81.07	82.99	82.58	81.64	80.36	82.10	79.46	79.89	82.15	83.14	81.82	83.01	83.04	79.21	82.82			
OP-2 (Note 2)	100.00	100.00	9-14	87.25	92.00	93.49	91.85	92.26	93.05	91.94	93.80	92.28	94.04	93.98	92.50	93.17	92.52	77.42	92.28	92.53	93.84	95.34	93.67	95.03	94.89	92.30	95.00		
OP-5	112.68	100.40	15.8 - 25.8	107.29	97.54	97.72	96.82	96.98	97.35	96.78	98.03	96.24	97.81	98.28	96.91	97.12	96.86	97.72	96.48	96.67	97.61	99.45	97.33	99.21	98.57	96.40	94.53		
Operable Unit 2																													
AE-1A	127.00	127.00	57-67	99.67	96.54	97.54	96.53	96.67	97.05	97.35	98.10	95.89	97.74	98.19	96.74	97.00	96.63	97.53	96.32	96.55	97.48	99.39	97.31	99.04	98.48	96.28	98.73		
AE-1B	126.80	126.80	77.3-87.3	99.65	96.43	97.51	96.65	96.65	97.09	96.49	98.09	95.87	97.73	97.98	96.55	96.93	96.61	97.51	96.30	96.53	96.45	99.38	97.30	99.33	98.47	96.27	98.72		
AE-2A (Note 5)	79.60	79.60	12.6 - 22.6	75.69	73.58	75.66	72.98	73.75	75.19	73.18	75.70	74.69	75.81	75.29	73.76	75.00	73.52	74.70	72.92	73.32	75.29	75.89	74.75	75.77	75.83	72.70	75.82		
AE-2B (Note 5)	78.50	78.50	42.5 - 52.5	75.78	73.49	75.65	73.16	74.42	75.33	73.80	75.61	74.22	75.94	76.02	74.35	74.26	74.01	75.30	73.49	73.66	75.65	75.46	75.31	76.30	76.40	73.13	76.36		
AE-3A (Note 6)	86.10	85.00	?? - 20	77.80	77.05	77.70	76.86	76.30	77.90	77.14	78.02	77.90	77.98	78.68	77.30	78.30	77.94	77.50	76.75	77.03	77.54	77.85	77.42	77.83	77.93	75.45	76.67		
AE-3B	87.30	86.20	31.4 - 43.4	78.64	78.30	78.49	77.47	77.90	78.58	76.86	78.66	78.47	78.50	78.32	77.76	78.84	77.50	77.82	77.22	77.45	81.09	78.68	77.89	78.57	78.66	75.87	77.35		
AE-4A	77.20	76.45	7.3 - 17.3	NA	NA	NA	NA	NA	73.47	70.75	73.75	72.91	73.10	73.20	71.49	73.10	70.80	72.29	70.42	71.20	72.99	73.74	72.64	73.68	69.43	72.80			
AE-4B	77.50	76.71	36.7 - 46.7	NA	NA	NA	NA	NA	73.42	70.51	73.30	72.28	73.61	73.01	71.10	72.18	70.58	72.12	70.26	70.55	72.92	73.83	72.01	73.89	73.89	69.32	72.92		
FPC-2A	78.40	78.40	8.8 - 18.8	NM	NM	76.66	78.40	76.24	76.31	75.66	76.32	75.90	76.30	76.12	75.62	75.98	75.41	75.89	75.02	75.36	75.39	75.86	75.50	75.85	75.68	74.67	75.64		
FPC-2B	77.98	77.98	25.4-40.4	77.78	NM	77.38	76.37	76.81	77.28	76.45	77.30	76.46	77.26	76.45	74.94	76.51	75.22	76.24	75.18	77.00	77.45	76.57	77.25	77.42	76.11	77.28			
FPC-3A	73.17	73.17	65.6-75.6	NM	71.02	70.58	71.06	70.51	68.95	71.02																			
FPC-3B	72.22	72.22	82.2 - 97.2	NM	70.42	70.23	70.42	70.47	68.93	70.55																			
FPC-3C	72.36	72.36	20.9 - 30.9	NM	71.03	70.61	71.10	71.13	68.95	71.04																			
FPC-4B	75.63	75.63	20.8-35.8	NM	NM	NM	NM	69.98	71.58	68.21	71.63	70.95	71.91	71.24	69.80	71.01	69.51	70.43	68.98	69.76	71.15	71.95	70.76	71.91	71.90	68.81	71.71		
FPC-5A	74.30	73.80	62.8-72.8	74.14	73.02	73.10	73.03	73.10	74.30	72.18	73.50	73.50	72.73	72.73	72.91	72.05	NM	72.48	70.88	71.70									
FPC-5B	74.90	74.00	98.1-113.1	74.70	73.43	70.96	73.15	74.23	74.40	73.19	74.66	74.50	74.85	74.46	73.74	74.33	72.95	73.64	72.90	73.39	74.05	74.35	73.85	74.11	74.39	71.70	73.35		
FPC-6A (Note 3)	79.20	79.20	7.3-8.3	73.01	NM	72.65	NM	NM	75.03	72.91	75.03	74.58	75.22	74.42	70.88	71.87	70.77	71.22	70.12	70.32	72.18	72.71	71.81	72.67	72.75	71.04	72.57		
FPC-6B	77.10	76.11	16-31	73.14	70.88	72.33	70.30	71.94	70.32	68.37	70.47	70.19	72.93	72.35	71.26	72.35	71.06	71.60	70.49	71.24	72.65	73.18	72.17	73.19	73.21	69.58	72.14		
FPC-7A	82.08	87.60	19.1-24.1	NM	NM	NM	NM	80.12	80.99	80.03	81.46	81.30	81.49	81.16	80.21	81.00	80.20	80.73	79.78	80.46	81.17	81.44	80.85	81.56	81.66	79.46	86.95		
FPC-7B	82.33	85.3	32.4-47.4	NM	NM	NM	NM	79.82	80.72	79.69	81.02	79.43	81.20	80.87	80.14	80.82	79.95	80.42	79.54	80.20	80.94	81.42	80.61	81.40	81.42	79.26	84.28		
FPC-8A	73.80	73.80	25.1 - 35.1	73.20	71.06	72.99	70.36	71.26	72.86	70.63	73.01	72.20	73.09	72.73	71.62	72.46	71.31	72.60	70.75	71.32	72.75	73.17	72.30	72.90	73.19	70.44	73.13		
FPC-8B	73.60	73.60	42.9-57.9	72.99	70.93	72.79	70.07	71.22	72.89	70.58	72.83	72.03	72.00	72.68	71.10	72.28	71.16	72.40	70.81	71.19	72.59	72.96	72.15	72.78	73.03	70.32	72.95		
FPC-9A	117.57	114.10	60.4 - 70.4	96.22	95.25	97.05	96.02	96.27	96.40	95.83	97.59	95.48	97.44	97.90	96.37	96.58	96.18	97.23	95.98	96.18	97.20	99.10	97.00	98.70	98.26	95.92	95.01		
FPC-9B	117.87	116.00	74.5 - 89.5	99.28	96.15	97.08	96.11	96.37	NM	NM	NM	95.14	97.41	97.93	96.42	96.96	96.21	97.22	96.03	96.18	97.18	99.13	97.02	98.71	98.31	95.92	96.55		
FPC-9C	117.75	114.60	17.4 - 27.4	99.62	NM	97.52	NM	96.75	NM	NM	NM	96.08	97.62	96.10	96.75	96.65	96.78	97.69	96.53	96.84	97.58	99.25	97.37	99.07	98.57	96.51	95.55		
FPC-11A	117.95	117.95	46.6 - 51.6	NM	NM	NM	NM	96.65	97.01	96.51	97.71	95.81	97.58	97.95	96.50	96.68	96.38	97.45	96.09	96.36	97.24	99.14	97.08	98.79	98.31	NM	98.47		
FPC-11B	117.90	117.90	57.5 - 72.5	NM	NM	NM	NM	96.70	96.90	96.34	97.69	95.54	97.57	97.89	96.56	97.10	96.37	97.30	96.07	96.29	97.19	99.13	97.04	98.78	98.29	NM	98.40		
FPC-11C (Note 4)	118.10	117.86	17.7 - 32.7	NM	96.58	97.40	96.23	96.82	97.39	99.38	97.95	98.08	98.45	NM	NM														
GZ-105	73.60	73.60	37.8 - 52.8	71.02	69.31	70.83	68.45	69.71	71.09	69.28	70.91	70.68	71.05	70.78	69.83	70.71	69.47	70.70	68.98	70.03	70.69	71.08	70.58	71.06	71.08	68.90	71.00		
GZ-109	119.36	119.36	10.5 - 25.4	NM	97.05	98.61	98.35	95.86	98.41																				
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Draft Table 1.2 Vertical Hydraulic Gradients - Select Well Couplets: Spring 2020
 2020 Semi-Annual Summary Report
 Coakley Landfill Superfund Site
 Greenland and North Hampton, New Hampshire

Monitoring Well	Geologic Unit	Ground Elevation	Screened Depth (ft bgs)	Bottom of Screen Elevation	GW Elevation January 2019	GW Elevation May 2019	GW Elevation July 2019	GW Elevation September 2019	GW Elevation May 2020	Vertical Gradient January 2019	Vertical Gradient May 2019	Vertical Gradient July 2019	Vertical Gradient September 2019	Vertical Gradient May 2020
MW-5S	SBR	99.30	48-78	21.30	91.15	91.08	90.21	87.90	91.09					
MW-5D	DBR	97.58	139-159	-61.42	91.72	90.60	89.64	87.25	90.70	0.007	0.006	0.007	0.008	0.005
AE-1A	Till	125.00	55-65	60.00	98.60	98.48	97.73	96.28	98.73	0.000	0.001	0.001	0.001	0.001
AE-1B	SBR	125.00	75-85	40.00	98.59	98.47	97.72	96.27	98.72					
AE-2A	Till	76.97	10-20	56.97	75.88	75.83	75.18	72.70	75.82	0.019	0.019	0.014	0.014	0.018
AE-2B	SBR	77.04	40-50	27.04	76.44	76.40	75.60	73.13	76.36					
AE-3A	Till	82.80	7.8-17.8	65.00	76.87	76.83	76.37	75.45	76.67	0.032	0.033	0.026	0.019	0.031
AE-3B	SBR	82.80	28-40	42.80	77.57	77.56	76.95	75.87	77.35					
AE-4A	Outwash	74.20	5-15	59.20	72.94	72.93	72.34	69.43	72.80	0.006	0.006	0.002	0.003	0.004
AE-4B	SBR	74.01	34-44	30.01	73.11	73.10	72.29	69.33	72.92					
FPC-2A	Outwash	75.60	6-16	59.60	Frozen	75.68	75.39	74.67	75.64	NC	0.079	0.076	0.065	0.075
FPC-2B	SBR	75.40	22.8-37.8	37.60	Frozen	77.42	77.06	76.11	77.28					
FPC-3A	Till	70.57	63-73	-2.43	Frozen	70.51	70.72	68.95	71.02	NC	0.002	0.021	0.001	0.021
FPC-3B	SBR	70.57	80.5-95.5	-24.93	Frozen	70.50	70.47	68.93	70.55					
FPC-3A	Till	70.57	63-73	-2.43	Frozen	70.51	70.72	68.95	71.02					
FPC-3C	Outwash	69.68	18.5-28.5	41.18	Frozen	71.13	70.77	68.95	71.04	NC	0.014	0.001	0.000	0.000
FPC-5A	Till	73.80	60-70	2.06				70.88	71.7	NC	NC	NC	0.021	0.042
FPC-5B	SBR	74.00	95.3-110.3	-37.68				71.70	73.35					
FPC-6A	Till	73.66	1.8-2.8	70.86	72.79	72.75	72.03	72.14	72.57	0.020	0.021	0.016	0.099	0.017
FPC-6B	SBR	73.62	13.5-28.5	45.12	72.28	72.22	71.63	69.58	72.14					
FPC-7A	Till	85.52	17-22	63.52	Frozen	81.66	81.05	79.46	86.95	NC	0.009	0.009	0.008	0.104
FPC-7B	SBR	82.87	30-45	37.87	Frozen	81.42	80.81	79.26	84.28					
FPC-8A	Till	71.70	23-33	38.70	Frozen	73.19	72.64	70.44	73.13	NC	0.007	0.005	0.005	0.008
FPC-8B	SBR	71.36	40.7-55.7	15.66	Frozen	73.03	72.52	70.32	72.95					
FPC-9A	Till	111.73	58-68	43.73	98.32	98.26	97.41	95.92	95.01	0.001	0.003	0.000	0.000	0.090
FPC-9B	SBR	113.53	72-87	26.53	98.34	98.31	97.41	95.92	96.55					
FPC-9C	Outwash	112.22	15-25	87.22	98.66	98.57	97.87	96.51	95.55	0.008	0.007	0.011	0.014	0.012
FPC-9A	Till	111.73	58-68	43.73	98.32	98.26	97.41	95.92	95.01					
FPC-11A	Till	118.36	47-52	66.36	Frozen	98.31	97.50	95.88	98.47	NC	0.001	0.002	0.002	0.003
FPC-11B	SBR	118.45	58-73	45.45	Frozen	98.29	97.46	95.93	98.40					
FPC-11A	Till	118.36	47-52	66.36	Frozen	98.31	97.50	95.88	98.47					
FPC-11C	Outwash	118.18	18-33	85.18	Frozen	98.21	97.55	Paved Over	Paved Over	NC	0.005	0.003	NC	NC
GZ-109	Open BR	117.74	103-252	-134.26	98.46	98.35	97.40	95.86	98.41	0.007	0.007	0.005	0.004	0.007
GZ-117	Till	118.10	30.5-40.5	77.60	96.89	96.85	96.35	95.06	96.90					
GZ-123	Outwash	85.21	11.5-16.5	68.71	78.52	77.88	76.90	75.89	78.08	0.007	0.011	0.014	0.016	0.018
GZ-125	Open BR	85.72	57-200	-114.28	79.88	79.84	79.39	78.87	81.35					
MW-20S	Outwash	72.59	5-10	62.59				68.46	71.17	NC	NC	NC	0.008	0.002
MW-20D1	DBR	72.79	65-75	-2.21				67.95	71.02					
MW-20D1	DBR	72.79	65-75	-2.21				67.95	71.02	NC	NC	NC	0.001	0.003
MW-20D2	DBR	72.79	224-234	-161.21				67.80	70.56					
MW-21S	MSC	71.18	6-14	57.18				69.67	72.10	NC	NC	NC	0.002	0.029
MW-21D1	DBR	74.06	20-30	44.06				69.70	72.48					
MW-21D1	DBR	74.06	20-30	44.06				69.70	72.48	NC	NC	NC	0.001	0.003
MW-21D2	DBR	74.06	297-307	-232.94				69.85	73.28					
MW-22S	Outwash	74.26	6-14	60.26				69.80	73.58					
MW-22D1	DBR	74.94	75-85	-0.06				69.36	72.96	NC	NC	NC	0.007	0.010
MW-22D1	DBR	74.94	75-85	-0.06				69.36	72.96					
MW-22D2	DBR	74.94	210-220	-145.06				69.20	72.58	NC	NC	NC	0.001	0.003

Notes

1 Positive vertical gradient indicates a downward flow direction

FT BGS = Feet Below Ground Surface

Frozen = Unable to measure due to frozen well

NC = Not Calculated

Open BR = Open Borehole

SBR = Shallow Bedrock

DBR = Deep Bedrock

MSC = Marine silt and clay.

Yellow = Neutral vertical gradient (0.1 ft difference or less in groundwater elevations)

Green = Upward Vertical Gradient

Light Blue = Downward vertical gradient

Grey = Data not collected

Draft Table 2 - Well Depth Comparison: Spring 2020
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 Greenland and North Hampton, New Hampshire

Well ID	Measuring Point Elevation (ft NGVD)	Adjusted Well Depths Based on Well Depth and Stickup (ft from Measuring Point)	Screen Length (in feet)	Screened Interval (ft from Measuring Point)		August 2012 Measured Well Depth from 2012 (in ft from Measuring Point)	August 2015 Measured Well Depth (in ft from Measuring Point)	May 2020 Measured Well Depth (in ft from Measuring Point)	Well Depth Variance 2012 to 2020
				Upper	Lower				
Operating Unit 1 (OU-1) Wells									
BP-4	107.40	101.78	65.4	36.4	101.8	101.56	101.8	101.2	0.4
MW-2	94.54	21.74	10	11.7	21.7	NM	21.8	NM	NM
MW-4	129.12	40.12	10	30.1	40.1	39.22	39.2	39.0	0.2
MW-5D	99.72	165.64	20	145.6	165.6	161.32	161.7	161.2	0.1
MW-5S	101.96	80.66	30	50.7	80.7	83.02	83.5	83.1	-0.1
MW-6	101.15	186.15	159	27.2	186.2	171	170.9	170.9	0.1
MW-8	85.02	67.59	20	47.6	67.6	67.51	67.6	67.3	0.2
MW-9	81.70	13.00	5	8.0	13.0	12.46	12.5	12.7	-0.2
MW-10	79.10	12.67	5	7.7	12.7	12.17	12.1	11.9	0.3
MW-11	92.70	53.80	20	33.8	53.8	54.85	54.7	54.6	0.3
OP-2	100.00	14.00	5	9.0	14.0	16.84	16.9	16.6	0.3
OP-5	112.68	25.84	10	15.8	25.8	25.78	25.7	25.5	0.3
Operating Unit 2 (OU-2) Wells									
AE-1A	127.00	67.00	10	57.0	67.0	66.15	66.1	65.9	0.3
AE-1B	126.80	87.30	10	77.3	87.3	87.69	87.7	87.4	0.3
AE-2A**	79.60	22.63	10	12.6	22.6	22.55	22.6	22.3	0.3
AE-2B**	79.50	52.46	10	42.5	52.5	52.8	52.8	52.5	0.3
AE-3A*	85.00	20.00	10*	10.0	20*	20.06	20.1	19.8	0.2
AE-3B	86.20	43.40	12	31.4	43.4	43.02	43.1	42.8	0.2
AE-4A	76.45	17.25	10	7.3	17.3	16.05	16.6	16.0	0.1
AE-4B	76.71	46.70	10	36.7	46.7	46.1	46.1	45.7	0.4
FPC-2A	78.40	18.80	10	8.8	18.8	18.81	18.8	18.5	0.3
FPC-2B	77.98	40.38	15	25.4	40.4	40.01	40.3	40.0	0.1
FPC-3A	73.17	73.00	10	63.0	73.0	NM	NM	69.4	3.7
FPC-3B	72.22	95.50	15	80.5	95.5	NM	NM	95.8	-0.3
FPC-3C	72.36	28.50	10	18.5	28.5	NM	NM	28.7	-0.2
FPC-4B	75.83	35.83	15	20.8	35.8	35.45	35.4	35.1	0.4
FPC-5A**	73.80	70.00	10	60.0	70.0	25.76**	Obstructed	60.0	10.0
FPC-5B	74.00	113.11	15	98.1	113.1	113.56	113.4	114.2	-0.6
FPC-6A	79.20	8.34	1	7.3	8.3	9.97	10.4	10.0	0.0
FPC-6B	76.11	30.99	15	16.0	31.0	30.2	30.2	29.9	0.3
FPC-7A	87.60	24.08	5	19.1	24.1	23.95	24.0	23.7	0.2
FPC-7B	85.30	47.43	15	32.4	47.4	46.9	47.0	46.6	0.3
FPC-8A	73.80	35.10	10	25.1	35.1	33.87	33.9	33.5	0.4
FPC-8B	73.60	57.94	15	42.9	57.9	57.45	57.7	57.7	-0.2
FPC-9A	114.10	68.00	10	58.0	68.0	68.35	68.4	65.1	3.3
FPC-9B**	116.00	87.00	15	72.0	87.0	NM	89.5	89.0	-2.0
FPC-9C**	114.60	25.00	10	15.0	25.0	NM	27.7	NM	NM
FPC-11A	117.95	51.59	5	46.6	51.6	50.41	50.4	50.2	0.3
FPC-11B	117.90	72.45	15	57.5	72.5	70.7	71.3	71.0	-0.3
FPC-11C	117.86	32.68	15	17.7	32.7	32.12	31.8	NM	NM
GZ-105	73.80	52.76	15	37.8	52.8	51.99	52.1	51.7	0.3
GZ-109**	119.36	252.00	149	103.0	252.0	NM	NM	252.0	0.0
GZ-117**	118.10	40.50	10	30.5	40.5	NM	NM	40.0	0.5
GZ-123	86.6	17.89	5	12.9	17.9	17.58	17.4	NM	NM
GZ-125	87.99	202.27	142	60.3	202.3	192.36	201.3	NM	NM
MW-20S**	75.09	12.50	5	7.5	12.5	NM	NM	11.8	0.7
MW-20D1**	75.51	77.72	10	67.7	77.7	NM	NM	78.3	-0.5
MW-20D2**	75.49	236.70	10	226.7	236.7	NM	NM	236.7	0.0
MW-21S**	73.57	16.39	8	8.4	16.4	NM	NM	16.1	0.3
MW-21D1**	78.66	34.60	10	24.6	34.6	NM	NM	34.6	0.0
MW-21D2**	78.66	311.65	10	301.7	311.7	NM	NM	311.6	0.0
MW-22S**	76.51	16.25	8	8.3	16.3	NM	NM	16.1	0.1
MW-22D1**	76.75	86.81	10	76.8	86.8	NM	NM	86.8	0.0
MW-22D2**	76.78	221.84	10	211.8	221.8	NM	NM	221.8	0.0
MW-23	80.69	283.85	234	49.9	283.9	NM	NM	NM	NM
MW-24	118.7	144.25	62	82.3	144.3	NM	NM	NM	NM

TABLE NOTES

1. ft bgs = feet below ground surface
2. ft NGVD = feet National Geodetic Vertical Datum
3. NM = Not Measured
4. Well depths relative to measuring point measured in August 2012 and listed in 2012 Annual Report (Provan and Lorber)
 - * AE-3A well screen interval not specifically listed on boring log (well construction log for AE-3A is the same as AE-3B). Assume 10 foot screen was installed to bottom of borehole (0.3 feet below top of bedrock).
 - ** Well depth compared to original well depth

Draft Table 3 - Summary of Groundwater Analytical Data: Spring 2020
2020 Semi-Annual Summary Report
Cockley Landfill Superfund Site - Greenland and North Hampton, New Hampshire

Sampling Point ID Monitored Zone / Unit Date of Sample Collection	OPERABLE UNIT 1 (OU-1)																		# of Exceedances USEPA NHDES	
	USEPA	NHDES	MW-4*	MW-5D	MW-5S	MW-5	MW-8*	MW-9	MW-10	MW-11	OP-2	OP-5	BP-4	CL	AGGS					
	CL	AGGS	Til	Til	DR	SBR	OBH-BR	SBR	Outwash	Outwash	SBR	Outwash	Outwash	OBH-BR	OBH-BR					
VOLATILE ORGANIC COMPOUNDS BY 8260C - (ug/L)																				
1,2-Dichloropropane	5	5	N/A	N/A	1 U	1 U	1 U	1 U	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
1,4-Dichlorobenzene	75	N/A	N/A	N/A	1.1	1	1 U	1.6	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
2-Butanone(MEK)	4,000	N/A	N/A	N/A	10 U	10 U	10 U	10 U	N/A	N/A	10 U	N/A	N/A	N/A	0	0				
Acetone	6,000	N/A	N/A	N/A	10 U	10 U	10 U	12	N/A	N/A	10 U	N/A	N/A	N/A	0	0				
Benzene	5	5	N/A	N/A	2	1.9	1 U	3	N/A	N/A	1.3	N/A	N/A	N/A	0	0				
Carbon disulfide	70	N/A	N/A	N/A	2 U	2 U	2 U	2 U	N/A	N/A	2 U	N/A	N/A	N/A	0	0				
Chlorobenzene	100	100	N/A	N/A	1.8	1	1 U	5.6	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
Chloroethane	80	N/A	N/A	N/A	35	3.7	2 U	11	N/A	N/A	15	N/A	N/A	N/A	0	0				
Chloroform	---	N/A	N/A	N/A	1 U	1 U	1 U	1 U	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
Diethyl Ether	1,400	N/A	N/A	N/A	100	23	2 U	59	N/A	N/A	11	N/A	N/A	N/A	0	0				
Isopropylbenzene	800	N/A	N/A	N/A	1 U	1 U	1 U	1.5	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
Methyl-t-butyl ether(MTBE)	---	N/A	N/A	N/A	1 U	1 U	1 U	1 U	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
m&p-Xylene	10,000*	N/A	N/A	N/A	1 U	1 U	1 U	1 U	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
o-Xylene	10,000*	N/A	N/A	N/A	1 U	1 U	1 U	1 U	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
tert-Butyl Alcohol (TBA)	40	N/A	N/A	N/A	55	30 U	30 U	46	N/A	N/A	30 U	N/A	N/A	N/A	2	2				
Tetrachloroethene	3.5	5	N/A	N/A	1 U	1 U	1 U	1 U	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
Tetrahydrofuran(THF)	154	600	N/A	N/A	89	11	10 U	86	N/A	N/A	10 U	N/A	N/A	N/A	0	0				
trans-1,2-Dichloroethene	100	100	N/A	N/A	1 U	1 U	1 U	1 U	N/A	N/A	1 U	N/A	N/A	N/A	0	0				
1,4-DIOXANE BY 8260B SIM - (ug/L)																				
1,4-Dioxane	3	0.32	4.3	4.2	140	38	0.2 U	100 J+	0.2 U	1.3	26	0.43	0.2 U	6.7	6	8				
DISSOLVED METALS BY 200.8 - (mg/L)																				
Dissolved Antimony	0.006	0.006	0.001 U	0.001 U	N/A	N/A	N/A	N/A	0.001 U	0.001 U	N/A	0.001 U	0.001 U	N/A	0	0				
Dissolved Arsenic	0.01	0.01	0.048	0.05	N/A	N/A	N/A	N/A	0.0047	0.0063	N/A	0.15	0.032	N/A	3	3				
Dissolved Barium	---	2	0.065	0.066	N/A	N/A	N/A	N/A	0.02	0.019	N/A	0.0098	0.012	N/A	0	0				
Dissolved Beryllium	0.004	0.004	0.001 U	0.001 U	N/A	N/A	N/A	N/A	0.001 U	0.001 U	N/A	0.001 U	0.001 U	N/A	0	0				
Dissolved Calcium	---	73 J+	73 J+	N/A	N/A	N/A	N/A	N/A	35 J+	25 J+	N/A	37 J+	10 J+	N/A	---	---				
Dissolved Chromium	0.05	0.1	0.001 U	0.001 U	N/A	N/A	N/A	N/A	0.001 U	0.001 U	N/A	0.001 U	0.001 U	N/A	0	0				
Dissolved Iron	---	29 J+	30 J+	N/A	N/A	N/A	N/A	N/A	2.9 J+	13 J+	N/A	52 J+	14 J+	N/A	---	---				
Dissolved Lead	0.015	0.015	0.001 U	0.001 U	N/A	N/A	N/A	N/A	0.001 U	0.001 U	N/A	0.001 U	0.001 U	N/A	0	0				
Dissolved Magnesium	---	21	N/A	N/A	N/A	N/A	N/A	N/A	6.8	6	N/A	7.2	2.4	N/A	---	---				
Dissolved Manganese	0.3	0.84	1.2	1.3	N/A	N/A	N/A	N/A	0.65	1.2	N/A	2.1	2.5	N/A	5	4				
Dissolved Nickel	0.1	0.1	0.0092	0.012	N/A	N/A	N/A	N/A	0.0048	0.0018	N/A	0.0098	0.015	N/A	0	0				
Dissolved Potassium	---	160	35	35	N/A	N/A	N/A	N/A	2.1	4.7	N/A	9.1	2	N/A	---	---				
Dissolved Sodium	---	32	33	N/A	N/A	N/A	N/A	N/A	6.5	17	N/A	1.3	6.2	N/A	---	---				
Dissolved Vanadium	0.26	---	0.005 U	0.005 U	N/A	N/A	N/A	N/A	0.005 U	0.005 U	N/A	0.005 U	0.005 U	N/A	0	0				
TOTAL METALS BY 200.8 - (mg/L)																				
Total Antimony	0.006	0.006	N/A	N/A	0.001 U	0.001 U	0.001 U	0.001 U	N/A	N/A	0.001 U	N/A	N/A	0.001 U	0	0				
Total Arsenic	0.01	0.01	N/A	N/A	0.0052	0.016	0.001 U	0.0018	N/A	N/A	0.014	N/A	N/A	0.04	3	3				
Total Barium	---	2	N/A	N/A	0.11	0.12	0.012	0.15	N/A	N/A	0.059	N/A	N/A	0.038	---	---				
Total Beryllium	0.004	0.004	N/A	N/A	0.001 U	0.001 U	0.001 U	0.001 U	N/A	N/A	0.001 U	N/A	N/A	0.001 U	0	0				
Total Calcium	---	N/A	N/A	N/A	38 J+	38 J+	29 J+	29 J+	N/A	N/A	19 J+	N/A	N/A	54 J+	---	---				
Total Chromium	0.05	0.1	N/A	N/A	0.001 U	0.001 U	0.001 U	0.001 U	N/A	N/A	0.001 U	N/A	N/A	0.001 U	0	0				
Total Iron	---	---	N/A	N/A	17 J+	13 J+	15 J+	15 J+	N/A	N/A	14 J+	N/A	N/A	15 J+	---	---				
Total Lead	0.015	0.015	N/A	N/A	0.001 U	0.001 U	0.001 U	0.001 U	N/A	N/A	0.001 U	N/A	N/A	0.001 U	0	0				
Total Magnesium	---	N/A	N/A	N/A	34	18	13	36	N/A	N/A	16	N/A	N/A	21	---	---				
Total Manganese	0.3	0.84	N/A	N/A	1	3.3	4	1.5	N/A	N/A	0.49	N/A	N/A	1.6	6	5				
Total Nickel	0.1	0.1	N/A	N/A	0.0095	0.0092	0.0082	0.0088	N/A	N/A	0.0064	N/A	N/A	0.0088	0	0				
Total Potassium	---	160	N/A	N/A	23	18	2.9	11	N/A	N/A	9.3	N/A	N/A	16	---	---				
Total Sodium	---	---	N/A	N/A	120	70	28	150	N/A	N/A	65	N/A	N/A	50	---	---				
Total Vanadium	0.26	---	N/A	N/A	0.005 U	0.005 U	0.005 U	0.005 U	N/A	N/A	0.005 U	N/A	N/A	0.005 U	0	0				
PER- & POLYFLUORINATED ALKYL SUBSTANCES BY MODIFIED 637 - (mg/L)																				
Perfluorobutanoic Acid (PFBA)	---	59.6	55.1	28.4	43.1	1.63 J	43.8	36.7 J	72.8	49.5	9.56	4.41 U	7.43	---	---	---				
Perfluoropentanoic Acid (PFPeA)	---	106	100	37.9	91	3.21 J	226 J	69.7	146	105	15	4.41 U	10.9	---	---	---				
Perfluorohexanoic Acid (PFHxA)	---	4.34 J	4.21 J	28.7	9.09	3.26 J	24.2	2.59 J	3.40 J	9.95	2.2 J	4.41 U	2.6 J	---	---	---				
Perfluorooctanoic Acid (PFHxO)	---	163	150	89.8	165	3.81 J	173	62.4	210	204	25.2	4.41 U	18.1	---	---	---				
Perfluorodecanoic Acid (PFDA)	---	397	385	51.6	406	4.40 U	214	160	422	412	41.5	4.41 U	28	---	---	---				
Perfluorododecanoic Acid (PFDDA)	---	18*	30	26.7	50.7	60.9	4.40 U	98.5	13	11.7	58.9	8.13	4.41 U	11	---	---				
1H, 1H, 2H, 2H-Perfluorooctanesulfonic Acid (8:2FTS)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
Perfluorooctanoic Acid (PFOA)	70	12*	815	816	86.2	577	8.99	425	853	914	812	96.1	2.76 J	64.4	8	9				
Perfluorooctanesulfonic Acid (PFOS)	---	4.52	2.29 J	4.45 U	7.49	4.40 U	5.75	3.34 J	11.7	10.5	4.45 U	4.41 U	4.37 U	---	---	---				
Perfluorononanoic Acid (PFNA)	---	11*	39.1	38	4.45 U	76	4.40 U	32.9	175	392	109	10	4.41 U	1.83 J	---	---				
Perfluorooctanesulfonamide (PFOSA)	---	2.02 J	3.13 J	4.59	16	8.19	18.6	5.25	23.3	15	6.5	7.14	7.97	---	---	---				
Perfluorodecane sulfonic acid (PFDS)	70	16*	34.8	38.9	16.7	108	2.26 J	223 J	404	819	395	10.5	4.41 U	6.96	5	7				
Perfluorododecanoic Acid (PFDA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
1H, 1H, 2H, 2H-Perfluorodecane sulfonic Acid (8:2FTS)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
N-Methyl Perfluorooctanesulfonamide (MeFOA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
N-Ethyl Perfluorooctanesulfonamide (EFOA)	---	1.76 J	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
Perfluorododecane sulfonic acid (PFDSA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
Perfluorododecanoic Acid (PFDA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
Perfluorododecane sulfonic acid (PFDSA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
N-Methyl Perfluorodecane sulfonamide (MeFDSA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
Perfluorotridecanoic Acid (PFTA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
Perfluorotridecane sulfonic acid (PFTrSA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
N-Ethyl Perfluorodecane sulfonamide (EFOA)	---	22.7 U	22.3 U	22.2 U	22.8 U	22.0 U	22.4 U	22.5 U	23.3 U	22.6 U	22.2 U	22.0 U	21.8 U	---	---	---				
Perfluorotetradecanoic Acid (PFTDA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
N-Methyl Perfluorotetradecane sulfonamide (MeFOA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
Perfluoropentadecanoic Acid (PFPA)	---	4.54 U	4.47 U	4.45 U	4.56 U	4.40 U	4.71 U	4.49 U	4.66 U	4.52 U	4.45 U	4.41 U	4.37 U	---	---	---				
N-Ethyl Perfluorotetradecane sulfonamide (EFOA)	---	22.7 U	22.3 U	22.2 U	22.8 U	22.0 U	22.4 U	22.5 U	23.3 U	22.6 U	22.2 U	22								

Draft Table 3 - Summary of Groundwater Analytical Data: Spring 2020
2020 Semi-Annual Summary Report
Coakley Landfill Superfund Site - Greenland and North Hampton, New Hampshire

OPERABLE UNIT 2 (OU-2)													
Sampling Point ID	USEPA	NHDES	AE-1A	AE-1B	AE-2A	AE-2B	AE-3A	AE-3A-DUP ^a	AE-3B	AE-4A	AE-4B	# of Exceedences	
Monitored Unit	CL	AGGS	TR	SBR	TR	SBR	TR	TR	SBR	DuWesth	SBR	USEPA	NHDES
Date of Sample Collection	CL	AGGS	5/15/20	5/15/20	5/21/20	5/21/20	5/20/20	5/20/20	5/20/20	5/20/20	5/17/20	CL	AGGS
VOLATILE ORGANIC COMPOUNDS BY 8200-C (ug/L)													
1,2,4-Trimethylbenzene	---	330	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
1,2-Dichloropropane	5	5	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
1,4-Dichlorobenzene	---	75	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
2-Butanone(MEK)	200	4,000	N/A	N/A	10 U	10 U	10 U	10 U	10 U	10 U	10 U	---	0
Acetone	---	6,000	N/A	N/A	10 U	10 U	13	10 U	10 U	10 U	10 U	---	0
Benzene	5	5	N/A	N/A	1 U	1 U	1.3	1.3	1 U	1 U	1 U	---	0
Carbon disulfide	---	70	N/A	N/A	2 U	2 U	2 U	2 U	2 U	2 U	2 U	---	0
Chlorobenzene	100	100	N/A	N/A	1.6	1 U	4.8	4.9	1 U	1 U	1 U	---	0
Chloroethane	---	---	N/A	N/A	2 U	2 U	4.5	4.5	2 U	2 U	2 U	---	0
Chloroform	80	---	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
Diethyl Ether	---	1,400	N/A	N/A	2.1	11	10	11	2 U	2 U	2 U	---	0
Isopropylbenzene	---	800	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
Methyl-t-butyl ether(MTBE)	---	13	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
m,p-Xylene	---	10,000 ^a	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
o-Xylene	---	10,000 ^a	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
tert-Butyl Alcohol (TBA)	---	40	N/A	N/A	30 U	30 U	30 U	30 U	30 U	30 U	30 U	---	0
Tetrahydroethene	3.5	5	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
Tetrahydrofuran(THF)	154	600	N/A	N/A	10 U	12	10 U	10 U	10 U	10 U	10 U	---	0
trans-1,2-Dichloroethene	100	100	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	0
1,4-DIOXANE BY 8200 SIM (ug/L)													
1,4-Dioxane	3	0.32	0.97	1.2	7	48	9.7	13	11	0.2 U	0.2 U	4	6
DISSOLVED METALS BY 200.8 - (mg/L)													
Dissolved Antimony	0.006	0.006	0.001 U	N/A	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	N/A	0	0
Dissolved Arsenic	0.01	0.01	0.018	N/A	0.14	N/A	0.1	0.11	N/A	0.001 U	N/A	3	3
Dissolved Barium	---	2	0.019	N/A	0.019	N/A	0.059	0.058	N/A	0.0038	N/A	---	0
Dissolved Beryllium	0.004	0.004	0.001 U	N/A	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	N/A	0	0
Dissolved Calcium	---	---	40 J+	N/A	27 J+	N/A	44 J+	46 J+	N/A	7.2 J+	N/A	---	---
Dissolved Chromium	0.05	0.1	0.001 U	N/A	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	N/A	0	0
Dissolved Iron	---	---	0.42 J+	N/A	21 J+	N/A	30 J+	30 J+	N/A	0.05 U	N/A	---	---
Dissolved Lead	0.015	0.015	0.001 U	N/A	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	N/A	0	0
Dissolved Magnesium	---	---	14	N/A	7.9	N/A	18	18	N/A	5.8	N/A	---	---
Dissolved Manganese	0.3	0.84	0.6	N/A	1.1	N/A	1.9	2	N/A	0.012	N/A	3	2
Dissolved Nickel	0.1	0.1	0.001 U	N/A	0.0071	N/A	0.0073	0.0074	N/A	0.001 U	N/A	0	0
Dissolved Potassium	---	160	4.1	N/A	13	N/A	16	17	N/A	2.4	N/A	---	---
Dissolved Sodium	---	---	21	N/A	26	N/A	59	59	N/A	7.7	N/A	---	---
Dissolved Vanadium	0.26	---	0.005 U	N/A	0.005 U	N/A	0.005 U	0.005 U	N/A	0.005 U	N/A	0	---
TOTAL METALS BY 200.8 - (mg/L)													
Total Antimony	0.006	0.006	0.001 U	N/A	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	N/A	0	0
Total Arsenic	0.01	0.01	N/A	0.0062	N/A	0.0051	N/A	0.052	N/A	0.001 U	1	1	---
Total Barium	---	---	0.036	N/A	0.075	N/A	---	0.11	N/A	0.0077	---	---	---
Total Beryllium	0.004	0.004	0.001 U	N/A	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	N/A	0	0
Total Calcium	---	---	35 J+	N/A	39 J+	N/A	---	48 J+	N/A	7.9 J+	---	---	---
Total Chromium	0.05	0.1	0.001 U	N/A	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	N/A	0	0
Total Iron	---	---	6	N/A	2.4 J+	N/A	---	9.5 J+	N/A	0.05 U	---	---	---
Total Lead	0.015	0.015	0.001 U	N/A	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	N/A	0	0
Total Magnesium	---	---	16	N/A	28	N/A	---	22	N/A	6.5	---	---	---
Total Manganese	0.3	0.84	0.6	N/A	1.2	N/A	---	1.2	N/A	0.005 U	3	2	---
Total Nickel	0.1	0.1	0.001 U	N/A	0.0085	N/A	---	0.0082	N/A	0.001 U	0	0	---
Total Potassium	---	160	N/A	5.9	N/A	11	N/A	18	N/A	3.7	---	---	---
Total Sodium	---	---	26	N/A	140	N/A	---	76	N/A	14	---	---	---
Total Vanadium	0.26	---	0.005 U	N/A	0.005 U	N/A	---	0.005 U	N/A	0.005 U	0	---	---
PER- & POLYFLUORINATED ALKYL SUBSTANCES BY MODIFIED 537 - (ng/L)													
Perfluorobutanoic Acid (PFBA)	---	---	1.5 J	2.01 J	24.8	47.1	20.2	20.2	19.8	4.42 U	4.14 U	---	---
Perfluoropentanoic Acid (PFPeA)	---	---	2.02 J	4.54 U	50.2	106	43.1	40.5	37.4	4.42 U	4.14 U	---	---
Perfluorohexanoic Acid (PFHxA)	---	---	4.27 U	4.54 U	4.77	14	6.56	5.94	4.09 J	4.42 U	4.14 U	---	---
Perfluorooctanoic Acid (PFHxA)	---	---	2.64 J	2.9 J	109	206	68.5	64.1	67.1	4.42 U	4.14 U	---	---
Perfluorodecanoic Acid (PFDA)	---	---	4.27 U	4.54 U	244	383	103	105	98.8	4.42 U	4.14 U	---	---
Perfluorododecanoic Acid (PFDoA)	---	---	18 ^a	1.8 J	1.88 J	22.8	89.4	20.1	19.4	13.4	4.42 U	4.14 U	---
1H, 1H, 2H, 2H-Perfluorooctanesulfonic Acid (8:2FTS)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
Perfluorooctanoic acid (PFOA)	70	12 ^a	4.47	5.61	688	766	302	288	281	4.42 U	4.14 U	4	4
Perfluorooctanesulfonic Acid (PFOS)	---	---	4.27 U	4.54 U	6.59	13.5	1.23 J	4.59 U	1.91 J	4.42 U	4.14 U	---	---
Perfluorononanoic acid (PFNA)	---	---	11 ^a	4.27 U	4.54 U	142	120	55.6	49.3	43.4	4.42 U	4.14 U	---
Perfluorodecanesulfonamide (PFOSA)	---	---	4.27 U	4.54 U	13.1	7.83	19.7 J	31.4 J	11.3	4.42 U	4.14 U	---	---
Perfluorododecanesulfonic Acid (PFDS)	70	16 ^a	4.27 U	4.54 U	413	445	104 J	100	92.7	4.42 U	4.14 U	4	4
Perfluorodecanoic Acid (PFDA)	---	---	4.27 U	4.54 U	18.5	9.01	7.66	7.57	7.68	4.42 U	4.14 U	---	---
1H, 1H, 2H, 2H-Perfluorodecane sulfonic Acid (8:2FTS)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
N-Methyl Perfluorodecane sulfonamide (MeFOS)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
N-Ethyl Perfluorodecane sulfonamide (EiFOSA)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
Perfluorododecane sulfonic Acid (PFDS)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
Perfluorododecanoic Acid (PFDoA)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
N-Methyl Perfluorooctane Sulfonamide (MeFOSA)	---	---	21.6 UJ	22.2 UJ	23.1 U	10.5 U	22.9 U	22.9 U	22.7 U	22.1 U	20.7 U	---	---
Perfluorotridecanoic Acid (PFTrDA)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
Perfluorotetradecanoic Acid (PFTeDA)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
N-Ethyl Perfluorooctane Sulfonamide (EiFOSA)	---	---	21.6 UJ	22.2 UJ	23.1 U	10.5 U	22.9 U	22.9 U	22.7 U	22.1 U	20.7 U	---	---
Perfluorohexadecanoic Acid (PFHxDA)	---	---	4.27 U	4.54 U	4.62 U	2.11 U	4.59 U	4.59 U	4.55 U	4.42 U	4.14 U	---	---
N-Methyl Perfluorooctanesulfonamide Ethanol (MeFOSE)	---	---	21.3 U	22.7 U	23.1 U	10.5 U	22.9 U	22.9 U	22.7 U	22.1 U	20.7 U	---	---
N-Ethyl Perfluorooctanesulfonamide Ethanol (EiFOSE)	---	---	21.3 U	22.7 U	23.1 U	10.5 U	22.9 U	22.9 U	22.7 U	22.1 U	20.7 U	---	---
Combination of PFOA and PFOS	70	---	4.47	5.61	971	1,211	406 J	388	353.7	ND	ND	4	---
FIELD PARAMETERS													
Dissolved Oxygen (mg/l)	---	---	N/A	N/A	1.3	1.3	1.3	N/A	1.4	2.7	6	---	---
Oxidation Reduction Potential (mV)	---	---	N/A	N/A	-96	-113	-108	N/A	107	150	173	---	---
pH (standard units)	---	---	N/A	N/A	8.7	7.3	6.5	N/A	8.9	8.6	7.9	---	---
Specific Conductance (uS/cm)	---	---	N/A	N/A	491	1,010	830	N/A	804	132	169	---	---
Temperature (degrees Celsius)	---	---	N/A	N/A	12	12	12	N/A	13	10	10	---	---
Turbidity (NTU)	---	---	N/A	N/A	<5	<5	<5	N/A	<5	<5	<5	---	---

Notes on Last Page of Table

Draft Table 3 - Summary of Groundwater Analytical Data: Spring 2020
2020 Semi-Annual Summary Report
Coakley Landfill Superfund Site - Greenland and North Hampton, New Hampshire

Sampling Point ID Monitored Unit Date of Sample Collection	OPERABLE UNIT 2 (OU-2)																# of Exceedances			
	USEPA CL	NHDES AGGS	FPC-2A Outwash 5/19/20	FPC-2B SBR 5/19/20	FPC-3B TII 5/19/20	FPC-3C SBR 5/19/20	FPC-3C Outwash 5/19/20	FPC-4B SBR 5/22/20	FPC-4B TII 5/22/20	FPC-5A SBR 5/13/20	FPC-5A TII 5/13/20	FPC-6B SBR 5/13/20	FPC-6B TII 5/13/20	FPC-7A SBR 5/20/20	FPC-7A TII 5/20/20	FPC-8A SBR 5/21/20		FPC-8A TII 5/21/20	USEPA CL	NHDES AGGS
VOLATILE ORGANIC COMPOUNDS BY 8260C - (ug/L)																				
1,2,4-Trimethylbenzene	---	330	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
1,2-Dichloropropane	5	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
1,4-Dichlorobenzene	---	75	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
2-Butanone(MEK)	---	4,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	N/A	N/A	10 U	10 U	N/A	N/A	10 U	10 U	10 U	10 U	0
Acetone	---	6,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	N/A	N/A	10 U	10 U	N/A	N/A	10 U	10 U	10 U	10 U	0
Benzene	5	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
Carbon disulfide	---	70	2 U	2 U	2 U	2 U	2 U	2 U	2 U	N/A	N/A	2 U	2 U	N/A	N/A	2 U	2 U	2 U	2 U	0
Chlorobenzene	100	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
Chloroethane	---	2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	N/A	N/A	2 U	2 U	N/A	N/A	2 U	2 U	2 U	2 U	0
Chloroform	---	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
Diethyl Ether	---	1,400	2 U	2 U	2 U	2 U	2 U	2 U	2 U	N/A	N/A	4.3	2 U	N/A	N/A	2 U	2 U	2 U	2 U	0
Isopropylbenzene	---	800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
Methyl- <i>t</i> -butyl ether(MTBE)	---	13	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
m&p-Xylene	---	10,000*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
o-Xylene	---	10,000*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
tert-Butyl Alcohol (TBA)	---	40	30 U	30 U	30 U	30 U	30 U	30 U	30 U	N/A	N/A	30 U	30 U	N/A	N/A	30 U	30 U	30 U	30 U	0
Tetrachloroethene	3.5	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
Tetrahydrofuran (THF)	154	600	10 U	10 U	10 U	10 U	10 U	10 U	10 U	N/A	N/A	10 U	10 U	N/A	N/A	10 U	10 U	10 U	10 U	0
trans-1,2-Dichloroethene	100	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	N/A	N/A	1 U	1 U	N/A	N/A	1 U	1 U	1 U	1 U	0
1,4-DIOXANE BY 8260B SIM - (ug/L)																				
1,4-Dioxane	3	0.32	0.21	0.2 U	0.2 U	0.2 U	0.25	0.2 U	21	37	7.1	3.4	0.2 U	0.2 U	0.41	0.38	13	5	7	
DISSOLVED METALS BY 200.5 - (mg/L)																				
Dissolved Antimony	0.006	0.006	0.001 U	N/A	N/A	N/A	N/A	N/A	N/A	0.001 U	N/A	0.001 U	N/A	0						
Dissolved Arsenic	0.01	0.01	0.001 U	N/A	N/A	N/A	N/A	N/A	0.038	N/A	0.014	N/A	0.001 U	N/A	0.001 U	N/A	0.001 U	N/A	0.048	3
Dissolved Barium	---	2	0.019	N/A	N/A	N/A	N/A	N/A	0.07	N/A	0.015	N/A	0.0065	N/A	0.0078	N/A	0.072	N/A	0.072	0
Dissolved Beryllium	0.004	0.004	0.001 U	N/A	N/A	N/A	N/A	N/A	0.001 U	N/A	0.001 U	N/A	0.001 U	0						
Dissolved Calcium	---	28 J+	N/A	N/A	N/A	N/A	N/A	N/A	55 J+	N/A	16 J+	N/A	35 J+	N/A	27 J+	N/A	46 J+	N/A	46 J+	0
Dissolved Chromium	0.05	0.1	0.001 U	N/A	N/A	N/A	N/A	N/A	0.001 U	N/A	0.001 U	N/A	0.001 U	0						
Dissolved Iron	---	5.6 J+	N/A	N/A	N/A	N/A	N/A	N/A	6 J+	N/A	1.1 J+	N/A	0.05 U	N/A	0.05 U	N/A	0.05 U	N/A	6.1 J+	0
Dissolved Lead	0.015	0.015	0.001 U	N/A	N/A	N/A	N/A	N/A	0.001 U	N/A	0.001 U	N/A	0.001 U	0						
Dissolved Magnesium	---	15	N/A	N/A	N/A	N/A	N/A	N/A	26	N/A	6.6	N/A	11	N/A	5.4	N/A	23	N/A	23	0
Dissolved Manganese	0.3	0.84	1.2	N/A	N/A	N/A	N/A	N/A	0.28	N/A	1.4	N/A	0.005 U	N/A	0.005 U	N/A	0.005 U	N/A	0.17	2
Dissolved Nickel	0.1	0.1	0.0012	N/A	N/A	N/A	N/A	N/A	0.0081	N/A	0.0036	N/A	0.011	N/A	0.0011	N/A	0.0037	N/A	0.0037	0
Dissolved Potassium	---	160	4.9	N/A	N/A	N/A	N/A	N/A	21	N/A	4.4	N/A	3.2	N/A	2.4	N/A	9.1	N/A	9.1	0
Dissolved Sodium	---	15	N/A	N/A	N/A	N/A	N/A	N/A	15	N/A	17	N/A	15	N/A	17	N/A	76	N/A	76	0
Dissolved Vanadium	0.26	---	0.005 U	N/A	N/A	N/A	N/A	N/A	0.005 U	N/A	0.005 U	N/A	0.005 U	0						
TOTAL METALS BY 200.8 - (mg/L)																				
Total Antimony	0.006	0.006	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	N/A	0.001 U	N/A	0						
Total Arsenic	0.01	0.01	N/A	0.0021	0.0068	0.0028	0.013	0.001 U	N/A	0.001 U	N/A	0.0013	N/A	0.001 U	N/A	0.001 U	N/A	0.0069	N/A	1
Total Barium	---	2	N/A	0.012	0.0025	0.005	0.0066	0.0034	N/A	0.03	N/A	0.015	N/A	0.0056	N/A	0.0068	N/A	0.0068	N/A	0
Total Beryllium	0.004	0.004	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	N/A	0.001 U	N/A	0						
Total Calcium	---	28	N/A	9.9 J+	4.6 J+	2.1 J+	28 J+	3.9 J+	N/A	4.8 J+	N/A	5.2 J+	N/A	36 J+	N/A	24 J+	N/A	24 J+	N/A	0
Total Chromium	0.05	0.1	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	N/A	0.001 U	N/A	0						
Total Iron	---	15	N/A	0.057 J+	0.05 U	0.05 U	0.05 U	0.05 U	N/A	0.05 U	N/A	0.05 U	N/A	0						
Total Lead	0.015	0.015	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	N/A	0.001 U	N/A	0						
Total Magnesium	---	15	N/A	1.2	0.58	0.98	7.8	2.6	N/A	3	N/A	2.9	N/A	11	N/A	5.2	N/A	5.2	N/A	0
Total Manganese	0.3	0.84	N/A	0.005 U	0.0094	0.017	0.14	0.005 U	N/A	0.054	N/A	0.66	N/A	0.005 U	N/A	0.024	N/A	0.024	N/A	1
Total Nickel	0.1	0.1	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.0061	N/A	0.0012	N/A	0.0029	N/A	0.001 U	N/A	0.001 U	N/A	0
Total Potassium	---	160	N/A	4.5	4.1	2.4	2.9	1.5	N/A	6.3	N/A	3.5	N/A	2.9	N/A	3	N/A	3	N/A	0
Total Sodium	---	15	N/A	37	62	70	13	5.2	N/A	230	N/A	42	N/A	16	N/A	18	N/A	18	N/A	0
Total Vanadium	0.26	---	N/A	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	N/A	0.005 U	N/A	0.005 U	N/A	0						
PER- & POLY-FLUORINATED ALKYL SUBSTANCES BY MODIFIED 837 - (ng/L)																				
Perfluorobutanoic Acid (PFBA)	---	1.46 J	3.11 J	4.63 UJ	4.41 U	4.48 U	4.36 U	21.6 J	23.4	3.7 J	0.964 J	10 J	9.31	3.00 J	1.76 J	6	---	---	---	
Perfluoropentanoic Acid (PFPA)	---	4.61 U	5.51	4.63 U	4.41 U	4.48 U	4.36 U	46.6	36.7	7.74	3.47 J	31	24.9	1.45 J	4.66 U	9.65	---	---	---	
Perfluorohexanoic Acid (PFHxA)	---	3.59 J	4.57 U	4.63 U	4.41 U	4.48 U	4.36 U	6.7	13.2	2.69 J	4.45 U	6	4.56	3.34 J	4.66 U	4.57	---	---	---	
Perfluoroheptanoic Acid (PFHpA)	---	4.61 U	4.57 U	4.63 U	4.41 U	4.48 U	4.36 U	73.9	57.5	16.3	5.5	28	21.5	4.97	3.24 J	25.8	---	---	---	
Perfluorooctanoic Acid (PFOSA)	---	2.81 J	1.42 J	4.63 U	4.41 U	4.48 U	4.36 U	105	28.4	16.4	6.04	5.4	5.8	4.11 J	4.66 U	20	---	---	---	
Perfluorononanoic Acid (PFNnA)	---	18*	1.48 J	4.57 U	4.63 U	4.41 U	1.55 J	4.36 U	23.3	39.1	9.04	3.84 J	2.08 J	1.36 J	2.62 J	1.57 J	14.3	---	2	
1H, 1H, 2H, 2H-Perfluorooctanesulfonic Acid (8:2FTS)	---	4.61 U	4.57 U	4.63 U	4.41 U	4.48 U	4.36 U	4.64 U	4.49 U	4.43 U	4.45 U	4.50 U	4.25 U	4.46 U	4.66 U	4.26 U	---	---	---	
Perfluorodecanoic Acid (PFDA)	70	12*	7.18	0.902 J	1.07 J	0.854 J	2.64 J	4.36 U	310	182	52.4	20.8	11.5	12.6	11.5	4.42 J	67.8	2	6	
Perfluorododecanoic Acid (PFDDA)	---	4.61 U	4.57 U	4.63 U	4.41 U	4.48 U	4.36 U	1.75 J	1.20 J	4.43 U	4.45 U	4.50 U	4.25 U	4.46 U	4.66 U	4.26 U	---	---	---	
Perfluorotridecanoic Acid (PFTrDA)	---	11*	4.61 U	4.57 U	4.63 U	4.41 U	4.48 U	4.36 U	35.2	4.49 U	3.65 J	4.45 U	4.50 U	1.14 J	1.39 J	4.66 U	4.26 U	---	1	
Perfluorotetradecanoic Acid (PFTeDA)	---	5.24	4.57 U	7.01	3.88 J	4.48 U	10.3	9.89	4.49 U	5.85	6.99	3.89 J	3.15 J	4.46 U	7.89	9.94	---	---	---	
Perfluoropentadecanoic Acid (PFPeDA)	70	16*	4.61 U	1.47 J	4.63 U	4.41 U	4.48 U	4.36 U	58.4	17.1	11.5	2.67 J	4.50 U	2.41 J	1.7 J	4.66 U	15.4	0	3	
Perfluorohexadecanoic Acid (PFHxDA)	---	4.61 U	4.57 U	4.63 U	4.41 U	4.48 U	4.36 U	3.07 J	4.49 U	4.43 U	4.45 U</									

Draft Table 3 - Summary of Groundwater Analytical Data: Spring 2020
2020 Semi-Annual Summary Report
Coakley Landfill Superfund Site - Greenland and North Hampton, New Hampshire

Sampling Point ID Monitored Unit Date of Sample Collection	OPERABLE UNIT 2 (OU-2)																				# of Exceedances USEPA NHDES AGGS
	USEPA CL	NHDES AGGS	FPC-9B SBR	FPC-11A TII	FPC-11B SBR	GZ-108 SBR	GZ-106-DUP#1 SBR	GZ-117 OBR-SR	TII	MW-200 Outwash	MW-201 DBR	MW-201 DUP DBR	MW-202 DBR	MW-215 MSC	MW-211 DBR	MW-212 DBR	MW-225 Outwash	MW-221 DBR	MW-212D DBR		
VOLATILE ORGANIC COMPOUNDS BY 8260C - (ug/L)																					
1,2,4-Trimethylbenzene	---	330	1 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
1,2-Dichloropropane	5	5	1 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
1,4-Dichlorobenzene	---	75	1 U	N/A	N/A	1.7	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
2-Butanone(MEK)	200	4,000	10 U	N/A	N/A	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0
Acetone	---	6,000	10 U	N/A	N/A	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0
Benzene	5	5	1 U	N/A	N/A	2.5	2.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
Carbon disulfide	---	70	2U	N/A	N/A	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0
Chlorobenzene	100	100	1 U	N/A	N/A	4.2	4.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
Chloroethane	---	---	2U	N/A	N/A	3.1	3.1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0
Chloroform	80	---	1 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
Diethyl Ether	---	1400	6.6	N/A	N/A	25	26	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0
Isopropylbenzene	---	800	1 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
Methyl-tert-butyl ether(MTBE)	---	13	1 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
m&p-Xylene	---	10,000*	1 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
o-Xylene	---	10,000*	1 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
tert-Butyl Alcohol (TBA)	---	40	30 U	N/A	N/A	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	0
Tetrachloroethane	3.5	5	1 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
Tetrahydrofuran(THF)	154	600	10 U	N/A	N/A	17	18	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0
trans-1,2-Dichloroethane	100	100	2 U	N/A	N/A	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0
1,4-DIOXANE BY 8260B SIM - (ug/L)																					
1,4-Dioxane	3	0.32	3.7	0.84	0.27	31	35	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	3
DISSOLVED METALS BY 200.8 - (mg/L)																					
Dissolved Antimony	0.006	0.006	N/A	0.001 U	N/A	N/A	N/A	N/A	N/A	0.001 U	N/A	N/A	N/A	N/A	0.001 U	N/A	N/A	0.001 U	N/A	N/A	0
Dissolved Arsenic	0.01	0.01	N/A	0.0061	N/A	N/A	N/A	N/A	N/A	0.001 U	N/A	N/A	N/A	0.0087	N/A	N/A	0.001 U	N/A	N/A	N/A	0
Dissolved Barium	---	2	N/A	0.023	N/A	N/A	N/A	N/A	N/A	0.0038	N/A	N/A	N/A	0.026	N/A	N/A	0.0023	N/A	N/A	N/A	0
Dissolved Beryllium	---	0.004	0.004	N/A	0.001 U	N/A	N/A	N/A	N/A	0.001 U	N/A	N/A	N/A	0.001 U	N/A	N/A	0.001 U	N/A	N/A	N/A	0
Dissolved Calcium	---	---	N/A	36 J+	N/A	N/A	N/A	N/A	N/A	8.1 J+	N/A	N/A	N/A	59 J+	N/A	N/A	5.8 J+	N/A	N/A	N/A	---
Dissolved Chromium	0.05	0.1	N/A	0.001 U	N/A	N/A	N/A	N/A	N/A	0.001 U	N/A	N/A	N/A	0.001 U	N/A	N/A	0.001 U	N/A	N/A	N/A	0
Dissolved Iron	---	---	N/A	0.36 J+	N/A	N/A	N/A	N/A	N/A	0.05 U	N/A	N/A	N/A	3.1 J+	N/A	N/A	0.05 U	N/A	N/A	N/A	---
Dissolved Lead	0.015	0.015	N/A	0.001 U	N/A	N/A	N/A	N/A	N/A	0.001 U	N/A	N/A	N/A	0.001 U	N/A	N/A	0.001 U	N/A	N/A	N/A	0
Dissolved Magnesium	---	---	N/A	12	N/A	N/A	N/A	N/A	N/A	2.5	N/A	N/A	N/A	19	N/A	N/A	3	N/A	N/A	N/A	---
Dissolved Manganese	0.3	0.84	N/A	0.35	N/A	N/A	N/A	N/A	N/A	0.0079	N/A	N/A	N/A	0.34	N/A	N/A	0.0082	N/A	N/A	N/A	2
Dissolved Nickel	0.1	0.1	N/A	0.025	N/A	N/A	N/A	N/A	N/A	0.0013	N/A	N/A	N/A	0.0064	N/A	N/A	0.001 U	N/A	N/A	N/A	0
Dissolved Potassium	---	160	N/A	4.3	N/A	N/A	N/A	N/A	N/A	1.2	N/A	N/A	N/A	8.5	N/A	N/A	2.1	N/A	N/A	N/A	---
Dissolved Sodium	---	---	N/A	150	N/A	N/A	N/A	N/A	N/A	26	N/A	N/A	N/A	110	N/A	N/A	6.8	N/A	N/A	N/A	---
Dissolved Vanadium	0.26	---	N/A	0.005 U	N/A	N/A	N/A	N/A	N/A	0.005 U	N/A	N/A	N/A	0.005 U	N/A	N/A	0.005 U	N/A	N/A	N/A	0
TOTAL METALS BY 200.8 - (mg/L)																					
Total Antimony	0.006	0.006	0.001 U	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	0.001 U	0.001 U	0
Total Arsenic	0.01	0.01	0.0019	N/A	0.0039	0.01	0.0097	0.01	0.0097	0.001 U	N/A	0.0011	0.0032	0.0011	N/A	0.004	0.004	0.001 U	N/A	0.0032	0.001 U
Total Barium	---	2	0.054	N/A	0.18	0.039	0.038	0.0023	0.046	N/A	0.032	0.031	0.043	N/A	0.0061	0.0011	N/A	0.017	0.13	---	2
Total Beryllium	0.004	0.004	0.001 U	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	0.001 U	0.001 U	0
Total Calcium	---	---	25 J+	N/A	61 J+	45 J+	43 J+	0.42 J+	90 J+	N/A	35 J+	35 J+	27 J+	N/A	7.3 J+	N/A	12 J+	240 J+	---	---	---
Total Chromium	0.05	0.1	0.001 U	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0
Total Iron	---	---	0.1 J+	N/A	15.4 J+	3.2 J+	0.069 J+	0.24 J+	0.09 J+	N/A	0.24 U	0.15 J+	0.15 J+	N/A	0.05 J+	N/A	0.05 J+	0.1 J+	0.28 J+	0.28 J+	1
Total Lead	0.015	0.015	0.001 U	N/A	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U	N/A	0.001 U	0.001 U	0.001 U	0
Total Magnesium	---	---	19	N/A	21	18	18	0.24	12	N/A	0.37	0.39	0.05 U	N/A	0.2	0.26	N/A	3.1	0.056	---	---
Total Manganese	0.3	0.84	0.18	N/A	2.1	0.41	0.4	0.014	0.005 U	N/A	0.005 U	0.006	0.005 U	N/A	0.0065	0.005 U	N/A	0.005 U	0.005 U	0.005 U	2
Total Nickel	0.1	0.1	0.001 U	N/A	0.001 U	0.0064	0.0082	0.001 U	0.001 U	N/A	0.001 U	0.001 U	0.001 U	N/A	0.0011	0.001	N/A	0.001 U	0.0027	0.0027	0
Total Potassium	---	160	7.1	N/A	15	6.3	6.1	1.8	4.8	N/A	4.8	4.7	5.1	N/A	9.1	5.3	N/A	4.9	52	---	---
Total Sodium	---	---	37	N/A	800	120	120	66	280	N/A	71	68	130	N/A	82	89	N/A	34	95	---	---
Total Vanadium	0.26	---	0.005 U	N/A	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	N/A	0.005 U	0.005 U	0.005 U	N/A	0.005 U	0.005 U	N/A	0.005 U	0.005 U	0.005 U	0
PER- & POLYFLUORINATED ALKYL SUBSTANCES BY MODIFIED E37 - (ng/L)																					
Perfluorobutanoic Acid (PFBA)	---	---	3.00 J	1.93 J	4.5 U	31.5	27	4.39 U	1.68 J	4.42 U	4.36 R	4.37 R	4.33 R	18	4.39 UJ	4.54 R	4.25 U	4.37 UJ	4.24 R	---	
Perfluoropentanoic Acid (PFPeA)	---	---	5.53	5.88	4.5 U	61.6	52.7	4.39 U	1.96 J	4.42 U	4.36 UJ	4.37 UJ	2.94 J	29.7	4.39 UJ	4.54 UJ	4.25 U	4.37 U	4.24 UJ	---	
Perfluorhexanoic Acid (PFHxA)	---	---	3.19 J	4.43 U	4.5 U	17	13.2	4.39 U	4.16 U	4.42 U	4.36 U	4.37 U	4.33 U	7.85	4.39 U	4.54 U	4.25 U	4.37 U	4.24 UJ	---	
Perfluorheptanoic Acid (PFHpA)	---	---	13.8	8.83	4.5 U	101	97.9	4.39 U	4.16 U	4.42 U	4.36 U	4.37 U	3.15 J	55.3	4.39 U	4.54 U	4.25 U	4.37 U	4.24 UJ	---	
Perfluoroctanoic Acid (PFOLA)	---	---	18.2	10.2	4.5 U	138	132	4.39 U	0.925 J	4.42 U	4.36 U	4.37 U	0.944 J	3.19 J	61.5	4.39 U	4.54 U	4.25 U	4.37 U	4.24 U	---
Perfluordecanoic Acid (PFDA)	---	---	18*	8.00	2.87 J	4.5 U	68.3	64.9	4.39 U	4.42 U	4.36 U	4.37 U	2.48 J	27.4	4.39 U	4.54 U	4.25 U	4.37 U	4.24 U	---	
1H, 1H, 2H, 2H-Perfluorodecane sulfonic Acid (6:2FTS)	---	---	4.44 U	4.43 U	4.5 U	4.6 U	4.71 U	4.39 U	4.16 U	4.42 U	4.36 U	4.37 U	4.33 U	4.3 U	4.39 U	4.54 U	4.25 U	4.37 U	4.24 U	---	
Perfluorododecanoic Acid (PFDDA)	70	12*	39.2	18.1	2.59 J	324	279	4.39 U	5.06	4.42 U	4.36 U	4.37 U	2.32 J	11.2	192	4.39 U	4.54 U	4.25 U	4.37 U	4.24 U	
Perfluorododecane sulfonic Acid (6:2FOS)	---	---	4.44 U	4.43 U	4.5 U	5.98	4.29 J	4.39 U	4.16 U	4.42 U	4.36 U	4.37 U	4.33 U	4.3 U	4.39 U	4.54 U	4.25 U	4.37 U	4.24 U	---	
Perfluorooctanoic Acid (PFOSA)	---	---	11*	4.44 U	4.43 U	4.5 U	30.8	29.9	4.39 U	4.42 U	4.36 U	4.37 U	4.33 U	13.4	4.39 U	4.54 U	4.25 U	4.37 U	4.24 U	---	
Perfluorooctane sulfonamide (PFOSA																					

Draft Table 3 - Summary of Groundwater Analytical Data: Spring 2020
2020 Semi-Annual Summary Report
Coakley Landfill Superfund Site - Greenland and North Hampton, New Hampshire

NOTES

1. Monitored Zone / Unit identifies the hydrogeological unit within the screened/open interval. The hydrogeology of the site is comprised of four principle geological units including bedrock, glacial till, marine sediments consisting of predominately of silt and clay, and sandy outwash. Bedrock well screened intervals vary as follows: "OBH-BR" wells are standard 6-inch diameter wells with steel casing set in bedrock and open boreholes (typical water supply well construction). "SBR" indicates the screen interval is the upper most section of bedrock. "DBR" is used to differentiate a screened interval that is below the uppermost section of bedrock (i.e.; MW-5S versus MW-5D). "MSC" defines marine silt and clay.
2. **Bolded values** denote concentration exceeding the USEPA Cleanup Level (CL).
3. **Shaded values** denote concentration exceeding the NHDES Ambient Groundwater Quality Standard.
4. The list of volatile organic compounds (VOCs) provided includes analytes detected in OU-1 or OU-2 since 2006, and all VOCs that have ICLs. ICLs were established for 1,2-dichloropropane and tetrachloroethylene (PCE), however, no detections have been reported at groundwater sampling points included in the long-term monitoring events since 1998. An ICL was established for trans-1,2-dichloroethene, however, no detections have been reported at groundwater sampling points included in the long-term monitoring events since 1999.
5. An ICL was established for the semi-volatile organic compounds (SVOCs) diethyl phthalate and phenol. However, in May 1998 and April 1999, groundwater samples were submitted for analysis of SVOCs and no exceedances were reported; therefore, SVOCs were removed from the long-term monitoring plan.
6. Result for groundwater primary/duplicate samples are provided in this table: MW-4/MW-4-DUP, AE-3A/AE-3A-DUP, GZ-105/GZ-105-DUP, and MW-20D1/MW-20D1-DUP.

ABBREVIATIONS

N/A	Sample was not analyzed/measured for indicated parameter
J	Estimated concentration
J+	Estimated high
J-	Estimated low
R	Data rejected
### U	Not Detected at the reporting detection limit indicated
UJ	Undetected estimated
NHDES AGQS	NH Department of Environmental Services Ambient Groundwater Quality Standard (Env-Or-600, Table 600-1)
USEPA CL	US Environmental Protection Agency Cleanup Level established in 2015 Fifth Explanation of Significant Difference.
uS/cm	microsiemens per centimeter
ug/L	micrograms per liter, parts per billion
mg/L	milligram per liter, parts per million
ng/L	nanograms per liter, parts per trillion
NTU	nephelometric turbidity unit
mV	millivolt
*	Field parameter result qualified due to failed QA/QC or suspected issues with measurements, as noted on field
^	The AGQS for xylenes is for total xylene or the sum of all isomers, including: m&p-Xylene and o-Xylene.
<#	Less than # indicated.
1	Monitoring well resampled for PFAS on June 9 through 11, 2020 due to the initial sample arriving at the lab outside of the
2	NHDES Ambient Groundwater Quality Standards effective September 3, 2020.

Draft Table 4 - Analytical Results for Off-Site Water Supply Wells: Spring 2020
2020 Semi-Annual Summary Report
Coakley Landfill Superfund Site
Greenland and North Hampton, New Hampshire

SAMPLE IDENTIFICATION	USEPA CL	NHDES AGOS	USEPA MCL	338 BHR	346 BHR	415 BHR	R-3	R-3 DUP	4-SMW	9-SMW	10-SMW	14-SMW	15-SMW	21-SMW	21-SMW DUP	4-ROD	10-ROD	25-FW	5-BFL	9-BFL	15-BFL	340 BHR	463 BHR	7-WKD	8-WKD	27 HR	178A LR	67 HR	14-PWC		
				11-Mar-20	30-Mar-20	17-Mar-20	18-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20	22-Mar-20							
VOLATILE ORGANIC COMPOUNDS																															
FIELD PARAMETERS																															
T4-sulfate (ug/L)	3	0.32	-	0.28	<0.2	<0.2	0.260	<0.2	<0.2	<0.2	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NS	<0.2	<0.2	<0.2	<0.2	<0.2		
Temperature (degrees Celsius)	-	-	-	13	11	11	11	12	11	11	NS	10	11	10	10	10	11	11	11	11	11	11	11	11	NS	10	13	11	10	11	
Conductivity (uS/cm)	-	-	-	434	789	463	441	596	445	479	NS	894	792	664	655	499	647	390	539	152	774	NS	355	976	474	79	147	147			
Dissolved Copper (mg/L)	-	-	-	1.4	1.4	<0.5	<0.5	<0.5	<0.5	7.9	NS	0.7	<0.5	0.5	0.5	<0.5	<0.5	2.8	0.97	5.4	<0.5	NS	<0.5	7.8	1.1	6	<0.5				
pH (standard units)	-	-	-	7.1	6.8	8.4	8.1	7.9	7.9	7.7	NS	7.7	8.8	7.7	8.8	7.3	6.5	7.2	6.6	7.6	7.6	NS	7.9	6.7	6.6	6	6.9				
Oxidation-Reduction Potential (mv)	-	-	-	119	119	67	154	45	198	35	NS	119	169	45	109	132	161	4	138	28	NS	44	110	149	171	59					
Turbidity NTU	-	-	-	5	119	<5	<5	<5	<5	<5	N	11	45	<5	<5	9	14	14	<5	<5	<5	<5	<5	<5	<5	<5	7	<5	<5		
PER- & POLYFLUORINATED ALKYL SUBSTANCES BY MODIFIED 817 - (ng/L)																															
Perfluorobutanoic Acid (PFBA)	-	-	-	1.79 J	4.28 U	4.31 U	1.82 J	2.14 J	4.31 U	4.22 U	1.6 J	NS	4.46 U	4.37 U	4.33 U	2.18 J	4.57 U	4.37 U	1.19 J	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	1.99 J	4.33 U	4.37 U		
Perfluoropentanoic Acid (PFPeA)	-	-	-	2.23 J	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	2.03 J	4.33 U	4.37 U		
Perfluorohexanoic Acid (PFHxA)	-	-	-	2.04 J	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	3.32 J	4.20 J	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	2.04 J	4.33 U	4.37 U		
Perfluoroheptanoic Acid (PFHpA)	-	-	-	4.57 J	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
Perfluorooctanoic Acid (PFOSA)	-	-	-	6.47	4.28 U	4.31 U	1.72 J	4.37 U	0.889 J	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	1.91 J	4.33 U	4.37 U		
Perfluorononanoic Acid (PFNnA)	-	-	-	1.53 J	4.28 U	2.19 J	4.32 U	4.37 U	1.40 J	2.71 J	1.54 J	NS	4.46 U	4.37 U	4.33 U	2.15 J	1.46 J	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
1H, 1H, 2H, 2H-Perfluorooctanesulfonic Acid (8:2FTS)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
Perfluorooctanoic Acid (PFCA)	70	12*	-	16.3	1.96 J	3.18 J	4.32	4.36	5.87	4.87	1.96 J	NS	4.12 J	1.71 J	1.84 J	4.13 J	3.99 J	3.94 J	1.86 J	4.09 J	5.28	2.70 J	6.06	NS	1.94 J	6.1	7.66	1.27 J	3.06 J		
Perfluorooctanesulfonic Acid (PFHxS)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
Perfluorononanoic Acid (PFNA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
Perfluorodecanoic Acid (PFDA)	-	-	-	8.95	18.5	10.1	11.8 J	27.4 J	83.4	23.4	15.3	NS	70.5	5.26	6.51	34.7	32	21.2	16.6	73.8	121	29	16.1	NS	11.1	19.3	14.1	37.8	30.3		
Perfluorodecane sulfonic acid (PFDSA)	-	-	-	1.01 J	1.04 J	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.42	4.36 J	4.34 J	4.39 J	4.30 J	NS	4.56 U	4.28 U	3.21 J	4.33 U	4.37 U		
Perfluorodecanoic Acid (PFDA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2FTS)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
N-Methyl Perfluorodecane sulfonamide (MeFDSA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
N-Ethyl Perfluorodecane sulfonamide (EFOOSA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
Perfluorodecanoic Acid (PFDA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
Perfluorodecane sulfonic acid (PFDSA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
Perfluorodecane sulfonic acid (PFDSA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
N-Methyl Perfluorodecane sulfonamide (MeFOSA)	-	-	-	22.3 U	21.4 U	21.6 U	21.5 U	21.6 U	21.5 U	21.1 U	22.1 U	NS	22.3 U	21.4 U	22.6 U	22.6 U	22.9 U	21.8 U	22.0 U	21.8 U	21.8 U	22.0 U	21.5 U	NS	22.8 U	21.4 U	22.3 U	21.6 U	21.1 U		
Perfluorodecane sulfonic acid (PFDSA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
Perfluorodecane sulfonic acid (PFDSA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
N-Ethyl Perfluorodecane sulfonamide (EFOOSA)	-	-	-	22.3 U	21.4 U	21.6 U	21.5 U	21.6 U	21.5 U	21.1 U	22.1 U	NS	22.3 U	21.4 U	22.6 U	22.6 U	22.9 U	21.8 U	22.0 U	21.8 U	21.8 U	22.0 U	21.5 U	NS	22.8 U	21.4 U	22.3 U	21.6 U	21.1 U		
Perfluorodecane sulfonic acid (PFDSA)	-	-	-	4.47 U	4.28 U	4.31 U	4.32 U	4.37 U	4.31 U	4.22 U	4.41 U	NS	4.46 U	4.37 U	4.33 U	4.18 U	4.57 U	4.37 U	4.41 U	4.36 U	4.34 U	4.39 U	4.30 U	NS	4.56 U	4.28 U	4.46 U	4.33 U	4.37 U		
N-Methyl Perfluorodecane sulfonamide (MeFOSE)	-	-	-	22.3 U	21.4 U	21.6 U	21.5 U	21.6 U	21.5 U	21.1 U	22.1 U	NS	22.3 U	21.8 U	21.7 U	20.9 U	22.9 U	21.8 U	22.1 U	21.8 U	21.7 U	22.0 U	21.5 U	NS	22.8 U	21.4 U	22.3 U	21.6 U	21.1 U		
N-Ethyl Perfluorodecane sulfonamide Ethanol (EFOSE)	-	-	-	22.3 U	21.4 U	21.6 U	21.5 U	21.6 U	21.5 U	21.1 U	22.1 U	NS	22.3 U	21.8 U	21.7 U	20.9 U	22.9 U	21.8 U	22.1 U	21.8 U	21.7 U	22.0 U	21.5 U	NS	22.8 U	21.4 U	22.3 U	21.6 U	21.1 U		
Concentration of PFDA and PFOS	70	-	-	17.31 J	2.80 J	3.19 J	4.32	4.58	5.87	4.87	1.96 J	NS	4.12 J	1.71 J	1.84 J	4.13 J	3.99 J	3.94 J	1.86 J	4.09 J	5.28	2.70 J	6.06	NS	1.94 J	11.47	9.97 J	12.7 J	3.06 J		

TABLE NOTES:

TABLE ABBREVIATIONS:

NA = Not Analyzed
 NR = Not Recorded - field parameter measurement did not meet QA/QC criteria and were rejected
 uS/cm = microsiemens per centimeter
 ug/L = micrograms per liter (parts per billion)
 mg/L = milligrams per liter (parts per million)
 ng/L = nanograms per liter (parts per trillion)
 NTU = Nephelometric Turbidity Units
 mv = millivolt
 < = parameter concentration below detection limit indicated
 DUP = duplicate sample collected.
 B = Result is associated with lab contamination. PFHxA concentration in the blank was higher than the result in the sample.
 G = The ion transition ratio is outside the acceptable limits.
 J = The reported analyte is an estimated concentration between the method detection limit and the reporting limit.
 L = The reported analyte is an estimated concentration with a low bias.
 R = The reported analyte is rejected due to preservation outside the method requirement or analysis outside the technical holding time.
 U = unadjusted estimated
 U = unadjusted

NHDES AGOS = NHDES Ambient Groundwater Quality Standard
 USEPA MCL = USEPA Primary Drinking Water Standard
 USEPA CL = USEPA Groundwater Quality Standard
 Bold values denote concentration exceeding the USEPA Cleanup Level (CL).
 Shaded values denote concentration exceeding the NHDES Ambient Groundwater Quality Standard
 Post = Post treatment sample collected for arsenic and manganese.
 * Manganese concentrations compared to USEPA HA of 0.3 mg/L.

BFL = Berry Farm Lane
 BHR = Breakfast Hill Road
 BR = Birch Road
 FW = Falls Way
 LR = Lafayette Road
 NR = North Road
 PWC = Pinewood Circle
 RCD = Ridgecrest Drive
 ROD = Red Oak Drive
 R-3 = 388 Breakfast Hill Road
 SMW = Stone Meadow Way
 WKD = Woodknot Drive

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 Greenland and North Hampton, New Hampshire

SAMPLE IDENTIFICATION DATE SAMPLED	NHDES Surface Water Standard		SW-4	SW-5	SW-5Dup	SW-103	SW-110	SW-111	SW-LR	SW-BB1	SW-BB2
	Acute	Chronic	5/14/2020	5/14/2020	5/14/2020	5/14/2020	5/14/2020	5/14/2020	5/14/2020	5/14/2020	5/15/2020
VOLATILE ORGANIC COMPOUNDS BY 8260B (ug/L)											
Acetone	---	---	10 U	10 R	10 U						
METALS BY 200.8 (mg/L)											
TOTAL OR DISSOLVED (METALS ONLY)											
			Dissolved								
Aluminum	0.75	0.087	0.061	0.05 U	0.15	0.05 U	0.05 U				
Antimony	9	1.6	0.001 U								
Arsenic*	0.34	0.15	0.001 U	0.0043	0.0046	0.001 U	0.001 U	0.001 U	0.001 U	0.0017	0.001 U
Barium	---	---	0.0043	0.024	0.027	0.0077	0.0048	0.0066	0.0073	0.0094	0.0065
Beryllium	0.13	0.0053	0.001 U								
Cadmium*	0.00039	0.00021	0.001 U								
Calcium	---	---	9.9 J+	25 J+	29 J+	25 J+	15 J+	11 J+	14 J+	14 J+	21 J+
Chromium (Cr+3 + Cr+6)*	0.152 (Cr+3) 0.016 (Cr+6)	0.0198 (Cr+3) 0.011 (Cr+6)	0.001 U								
Cobalt	---	---	0.001 U	0.0017	0.002	0.001 U	0.001 U	0.001 U	0.001 U	0.0015	0.001 U
Copper*	0.0029	0.0023	0.013	0.001 U	0.001 U	0.0011	0.001 U	0.0015	0.001 U	0.001 U	0.0016
Iron	---	---	1	0.15	3.8	4.6	0.15	0.32	0.36	0.34	1.2
Lead*	0.0105	0.00041	0.001 U								
Magnesium	---	---	2.9	5.9	6.5	6.1	3.6	3.0	3.6	3.5	5.1
Manganese	---	---	0.061	0.93	1.1	0.019	0.13	0.14	0.079	0.40	0.068
Mercury*	0.0014	0.00077	0.0001 U								
Nickel*	0.12	0.0133	0.0011	0.0029	0.003	0.0023	0.0014	0.0021	0.0015	0.0015	0.0044
Potassium	---	---	1.5	6.6	6.7	6.6	2.1	1.8	1.4	2.2	2.8
Selenium	---	---	0.005	0.001 U							
Silver*	0.0002	---	0.001 U								
Sodium	---	---	9	19	18	16	19	26	23	20	21
Thallium	1.4	0.04	0.001 U								
Vanadium	---	---	0.005 U								
Zinc*	0.03	0.03	0.0095	0.005 U	0.005 U	0.005 U	0.0057	0.0067	0.005 U	0.005 U	0.0072
1,4-Dioxane by 8260B SIM ug/L											
1,4-Dioxane	---	---	0.2	1.7	1.8	0.86	0.2 U				
GENERAL CHEMISTRY											
Ammonia** (mg/L)	pH Dependent		0.05 U								
PERFLUORINATED CHEMICALS BY MODIFIED 537 - (ng/L)											
Perfluorobutanoic Acid (PFBA)	---	---	5.4	45.4	49.2	32.9	10.3	5.9	3.49 J	8.82	19
Perfluoropentanoic Acid (PFpEA)	---	---	8.28	91.7	92.2	77.5	22.9	7.84	4.02 J	16.7	39.2
Perfluorobutanesulfonic Acid (PFBS)	---	---	4.26 U	4.33	3.37 J	3.27 J	2.20 J	4.53 U	4.42 U	4.48 U	2.99 J
Perfluorohexanoic Acid (PFHxA)	---	---	19.5	155	135	108	28.4	11.7	4.92	24.5	51.5
Perfluoroheptanoic Acid (PFHpA)	---	---	41.7	276 J	282	219	67.6	23.6	6.27	54.1	111
Perfluorooctanoic Acid (PFHxS)	---	---	7.23	10.6 J	14.9 J	11.2	5.64	1.57 J	1.20 J	5.66	8.78
1H, 1H, 2H, 2H-Perfluorooctanesulfonic Acid (6:2FTS)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
Perfluorooctanoic Acid (PFOA)	---	---	114	709 J	719	594	160	50.1	13.6	118	280
Perfluoroheptanesulfonic Acid (PFHpS)	---	---	1.67 J	6.94	8.14	7.53	2.11 J	4.53 U	4.42 U	1.90 J	2.47 J
Perfluorononanoic Acid (PFNA)	---	---	39.6	424 J	427	399	81	21	3.21 J	69.2	162
Perfluorooctanesulfonamide (PFOSA)	---	---	8.76	4.63 U	7.86	4.67 U	24.2	15.6	17.4	3.59 J	17.2
Perfluorooctanesulfonic Acid (PFOS)	---	---	35.6	1,060 J	1,060	1,080	149	43.7	3.45 J	81.1	300
Perfluorodecanoic Acid (PFDA)	---	---	4.28 U	259 J	186 J	291	19.9	4.76	4.42 U	10.4	62.6
1H, 1H, 2H, 2H-Perfluorodecane sulfonic Acid (8:2FTS)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
Perfluoroundecanoic Acid (PFUnA)	---	---	4.28 U	20.1 J	7.94 J	28.7	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
Perfluorodecane sulfonic Acid (PFDS)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
Perfluorododecanoic Acid (PFDoA)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
N-Methyl Perfluorooctane Sulfonamide (MeFOSA)	---	---	21.4 R	23.1 U	22.6 UJ	23.3 U	23.7 U	22.1 UJ	19.6 UJ	22.4 U	22.3 U
Perfluorotridecanoic Acid (PFTDA)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
Perfluorotetradecanoic Acid (PFTeDa)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
N-Ethyl Perfluorooctane Sulfonamide (EtFOSA)	---	---	21.4 R	23.1 U	22.6 U	23.3 U	23.7 U	22.1 UJ	19.6 UJ	22.4 U	22.3 U
Perfluorohexadecanoic Acid (PFHxDA)	---	---	4.28 U	4.63 U	4.52 U	4.67 U	4.74 U	4.53 U	4.42 U	4.48 U	4.46 U
N-Methyl Perfluorooctanesulfonamido Ethanol (MeFOSE)	---	---	21.4 U	23.1 U	22.6 U	23.3 U	23.7 U	22.7 U	22.1 U	22.4 U	22.3 U
N-Ethyl Perfluorooctanesulfonamido Ethanol (EtFOSE)	---	---	28.6	23.1 U	22.6 U	23.3 U	23.7 U	22.7 U	22.1 U	22.4 U	22.3 U
Combination of PFOA and PFOS	---	---	148.6	1,769 J	1,779	1,674	309	93.8	17.05 J	209.1	580
FIELD PARAMETERS											
Temperature (degrees C)	---	---	14	14	NA	13	10	14	12	12	13
pH (Standard Units)	---	---	6.4	6.9	NA	6.9	6.8	6.6	7	6.4	6.6
Specific Conductance (us/cm)	---	---	102	337	NA	249	204	220	242	179	268
Dissolved Oxygen (mg/L)	---	---	6.7	<0.5	NA	1.2	7.5	6.8	10.4	7	3.7
Turbidity (NTU)	---	---	<5	30	NA	5	<5	5	9	6	<5
Oxidation Reduction Potential (mv)	---	---	178	-106	NA	110	48	92	77	113	12

USEPA Screening Levels		USEPA Screening Levels	
Adult Recreator	Child Recreator	Adult Recreator	Child Recreator
EF = 45 Days	EF = 120 Days	EF = 45 Days	EF = 120 Days

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NOTES:

1. VOCs list is limited to analytes detected in samples
 2. --- no standard has been established for the indicated parameter.
 3. NHDES Surface Water Standards are listed in Env Wq 1700, Table 1703.1
 4. There are no ROD ICLs established for surface water.
 5. Highlighting: Bold values denote NHDES Acute Surface Water Criteria Exceedances; Gray shaded values denote NHDES Chronic Criteria Exceedances. Blue shaded values denote EPA Screening Level Child Recreator Exceedances, EF = 120 days
 6. The reporting detection limit (RDL) for zinc, silver and lead are consistent with RDLs specified in the SAP, however, they exceed the "default" (see footnote *) acute and/or chronic standards.
 7. Perfluorinated chemicals were re-extracted beyond the 14-day holding time limit (27 days) due to method blank contamination. The results from the reextracted sample (SW-110) was used in the decision making.
- * Acute and chronic standards based on "default" values listed in Env Wq 1700, Table 1703.1. Actual standards may vary based on the water
- ** The freshwater and saltwater aquatic life criteria for ammonia are pH dependent. Refer to Env-Wq 1703.25 through Env-Wq 1703.31.
- J Concentration detected is below the reporting limit/LOQ.
- R Data rejected
- ## U Not detected at the reporting limit.
- UJ Undetected estimated
- uS/cm microsiemens per centimeter
- ug/L micrograms per liter, parts per billion
- mg/L milligram per liter, parts per million
- ng/L nanograms per liter, parts per trillion
- NTU nephelometric turbidity unit
- mV millivolt
- EF Effective Days
- < # Less than number indicated

